ALTOONA, PA: RESEARCHING SMART GROWTH PRINCIPLES
IN A SHRINKING CITY

A Thesis in
Landscape Architecture
by
Ian C. Reese

© 2011 Ian C. Reese

Submitted in Partial Fulfillment
of the Requirements
for the Degree of

Master of Science

August 2011
The thesis of Ian C. Reese was reviewed and approved* by the following:

Sean Burkholder  
Assistant Professor of Landscape Architecture  
Thesis Advisor

Caru Bowns  
Assistant Professor of Landscape Architecture

Kelleann Foster  
Associate Professor of Landscape Architecture  
Interim Department Head of Landscape Architecture

Charles Andrew Cole  
Associate Professor of Landscape Architecture  
Graduate Coordinator

*Signatures are on file in the Graduate School
ABSTRACT

Industrial cities of the developed world are faced with new challenges today. These cities, like Detroit MI, Youngstown, OH, and St. Louis MO, once leaders of manufacturing and industry, now face the realities of depopulation, suburbanization, and manufacturing decline. Many of these cities, some labeled as shrinking cities today, are accepting their changing infrastructure and seeking alternative policies in planning to help stem the losses of finance and human capital from leaving their borders. One alternative some city planners are implementing are the planning principals of Smart Growth. Smart Growth, developed in the early 1990s, is a universally accepted planning policy endorsed by the federal government and prominent planning organizations to help guide new and infill development in urban regions. This policy is aimed at attempting to offset environmental damage caused by sprawling building practices and poor infill development policy. Altoona, PA, is one such city exploring Smart Growth policies to mitigate depopulation and suburbanization through their comprehensive planning strategies.

The purpose of this thesis is to examine how Smart Growth principles may be applied in shrinking cities, using Altoona, PA as a case study. Smart Growth planning is chosen for its early history of infill development and its potential to mitigate shrinking conditions in cities like Altoona. Altoona is portrayed as a shrinking city based on four criteria: depopulation, deindustrialization, suburbanization, and globalization. Each criterion is examined for its role in the shrinking process and related to conditions existing in Altoona today. Based on this analysis, a demographic profile for Altoona is developed and used to more accurately compare Smart Growth planning practices in a shrinking city. This thesis will attempt to answer two questions: 1) What Smart Growth planning principles are viable in a shrinking city like Altoona, PA? and 2) What Smart Growth planning principles are not viable in a shrinking city like Altoona, PA? This thesis will conclude that Smart Growth planning does have a role in shrinking cities today; however, this role may be limited due to a lack of demographic diversity.
**TABLE OF CONTENTS**

List of Tables ................................................................................................................................. v  
List of Figures ................................................................................................................................. vi  
Acknowledgements ......................................................................................................................... vii

Chapter 1. INTRODUCTION ........................................................................................................ 1

Chapter 2. METHODS .................................................................................................................... 3

Chapter 3. HISTORICAL OVERVIEW: SHRINKING CITIES AND ALTOONA, PA...................... 6  
  Shrinking Cities .......................................................................................................................... 6  
  Factors Contributing to Shrinking Cities ..................................................................................... 7  
  Altoona, PA ............................................................................................................................... 11  
  Comprehensive Planning in Altoona: 1990-Present ................................................................. 12

Chapter 4. SMART GROWTH: HISTORY AND POLICY .......................................................... 18  
  Historical Reference ................................................................................................................... 18  
  The Smart Growth Network ...................................................................................................... 19

Chapter 5. LITERATURE REVIEW ............................................................................................. 25

Chapter 6. DEMOGRAPHIC PROFILE OF ALTOONA .............................................................. 37

Chapter 7. HOW DOES ALTOONA RANK AS A SHRINKING CITY .................................... 47  
  Altoona and Depopulation ........................................................................................................ 47  
  Altoona and Deindustrialization ............................................................................................... 48  
  Altoona and Suburbanization .................................................................................................... 48  
  Altoona and Globalization ....................................................................................................... 49  
  Altoona and Other Shrinking Cities? ........................................................................................ 50

Chapter 7 SMART GROWTH PLANNING AND SHRINKING CITIES .............................. 52  
  Viable aspects of Smart Growth planning in Shrinking Cities ................................................ 52  
  Difficulties of Smart Growth Planning in Shrinking Cities ...................................................... 56  
  Future Research ......................................................................................................................... 59

Bibliography ................................................................................................................................. 60
LIST OF FIGURES

Figure 1.1 View from Gospel Hill, 1900.............................................................. 6
Figure 1.2 View from Gospel Hill, 1978.............................................................. 6
Figure 1.3 Altoona in Context of Pennsylvania................................................. 11
Figure 1.4 Altoona Population, 1860 - Present.................................................. 12
Figure 1.5 Neighborhood Map of Altoona....................................................... 12
Figure 1.6 Neighborhood Development, 1953............................................... 13
Figure 1.7 Eleventh Ave, Circa 1920................................................................. 14
Figure 2.1 Altoona, Compact Design................................................................. 22
Figure 5.1 Population Decline around Downtown Altoona................................. 38
Figure 5.2 Housing Units with Population......................................................... 40
Figure 5.3 Percent Vacant of Housing Units...................................................... 41
Figure 6.1 Eleventh Avenue, 1900................................................................. 47
Figure 6.2 Eleventh Avenue, 2006................................................................. 47
Figure 6.3 Altoona Rail Works............................................................... 48
Figure 6.4 Gridded Street Pattern............................................................... 49
Figure 7.1 Housing Density............................................................................. 54
LIST OF TABLES

Table 5.3 Education Distribution........................................................................................................... 39

Table 5.1 Percentage of Homes Built before 1939................................................................................ 42

Table 5.2 Comparison of Average Family Income.................................................................................. 44
ACKNOWLEDGEMENTS

I would first like to thank God for the talents and strength to accomplish this task. It has been a long journey and I could not have done it by myself. Secondly I would like to thank the School of Landscape Architecture for taking a chance in me and leading me into a new and bright future. My time in this school has changed my life forever. I would like to thank Sean Burkholder for his endless hours of guidance and editing skills, Caru Bowns for her direction and positive outlook, Peter Aeschbacher for his creative approach, and Kelleann Foster for her motivation. Here I must acknowledge Lee Slusser and the entire planning staff for the city of Altoona. Their data and insights are invaluable. I would also like to thank them for their continuous positive attitude towards their great city. I would like to thank Kirk Dimond and Stephen Mainzer for their endless hours of debate, support and educational sessions. I would especially like to thank my wife, Kathleen Kuehn, for putting me on the path to academia, believing that I could do it, and making my life complete. I would finally like to thank the office staff for their tireless hours of work making sure I get paid, I have the correct classes, finding me funding, orientation and the million tasks I will never know about. I apologize for those not mentioned, for there any many left unacknowledged that have certainly made this possible.
Chapter 1

INTRODUCTION

This thesis examines how Smart Growth principles may be applied in shrinking cities, using Altoona, PA as a case study. Smart Growth is chosen as a planning practice based on its early history of infill development and portrayal as a policy having a place in shrinking cities today. Altoona is selected as a case study for its infrastructural resemblance to a Smart Growth city, recent planning initiatives focused on Smart Growth policy, and its industrial history contributing to the conditions of shrinking today. Altoona is also chosen for the unique manner in which the city shrinks compared to other similar. This thesis will identify and answer two questions about Smart Growth planning:

1. Based on the demographic and physical structure, what Smart Growth planning practices are viable in shrinking cities like Altoona?
2. Based on the demographic and physical structure, what Smart Growth planning practices are NOT viable in shrinking cities like Altoona?

To accomplish this goal two analyses are required: 1) establishing the processes that contribute to shrinking cities and how they relate to Altoona, PA and 2) the examination of Smart Growth policies and their intended purposes. A profile for what constitutes a shrinking city is developed based on research conducted in the fields of planning and landscape architecture. Based on this research this thesis identifies four processes contributing to shrinking cities: deindustrialization, depopulation, suburbanization, and globalization. Each process is explored in detail with case studies provided as examples. Historical and demographic analysis is applied to Altoona revealing these processes as they occur. A case is made that Altoona is a shrinking city experiencing each of the four processes to some degree. Based on demographic analysis, a case is also made that Altoona possesses a limited diversity of age types, housing types, and advanced degrees. These observations are used in discussions pertaining to the viability of Smart Growth planning in shrinking cities.

Smart Growth, established in the 1990s, began as a collaborative effort between the United States federal government through the EPA, the State of Maryland, and the American Planning Association. Today, Smart Growth is endorsed by at least forty influential planning, development and construction organizations including: the Urban Land Institute, the Institute of Transportation Engineers, and the Conservation Fund. Over the past several decades Smart Growth has gained a universal appeal in city planning and has become accepted practice as a planning guideline. This thesis examines the effectiveness and compatibility of Smart Growth practice in a small shrinking city of Pennsylvania. Smart Growth is analyzed using literature established by the Smart Growth Network (SGN) and the Environmental Protection Agency (EPA). The ten principles for planning offered by the SGN are identified and described in detail. These ten principles are analyzed for how they relate to Altoona relying on the architectural qualities and planning practices of Altoona. Altoona is portrayed architecturally as city possessing Smart Growth infrastructure and one that is pursuing Smart Growth practices. This thesis will conclude that shrinking cities like Altoona possess qualities that aid Smart Growth planning like mixed use neighborhoods, compact design and infrastructure suitable for public
transportation. This thesis will also conclude that despite these aspects, the demography and architecture of these cities also may hinder their performance as Smart Growth examples.

New Urbanism and Smart Decline practices were explored for this thesis; however will not be included with the analysis. While their contributions are important and relevant when studying shrinking cities, they are omitted for two reasons. One, due to the similarities of Smart Growth Planning and New Urbanism, for the purposes of this thesis, only Smart Growth practices are analyzed. Two, after review of Smart Decline practices; Altoona is determined to not represent a city possessing the conditions that Smart Decline literature defines.
Chapter 2

METHODS

The structure for this thesis is based on a collection of analyses performed by academics in the fields of Landscape Architecture and Urban Planning. The thesis is a case study modeled after works completed by shrinking city scholars; Hollander, Rieniets and Pyl. The types of data collected are based on suggestions derived by Hollander in his examination of Flint, MI. In his article, Hollander suggests that researchers move beyond the basic analysis of population and housing and seek other demographics that might better explain the unique shrinking conditions of the case study. Hollander also mentions the importance of site visits and getting to know the subject directly. Manipulation of the data is partially based on the methods employed by Ellen Banzhaf and Kabisch. Kabisch suggests that the study of the processes that govern a shrinking city can be more than one and require several attempts to find the best approach. This thesis borrows this logic and employs several approaches to describe the data obtained.

Literature Review; Shrinking Cities, Smart Growth and Comprehensive Planning

Shrinking cities literature selected for this thesis is comprised of past and contemporary scholarly reviews of case studies in the United States and Germany, plus literature outlining the present understanding of shrinking cities. Germany has been selected as a region of focus because of their aggressive approach towards the mitigation of vacant properties and depopulation. In the United States, case studies of shrinking cities are focused around post-industrial cities in the northeast and upper Midwest, particularly Youngstown, Oh, Detroit, MI, Allentown, PA, and Flint, MI. There are many cities that may be studied in relation to shrinking cities; however time and space to not permit a full review of every example. The cities used for comparison are recognized as shrinking cities and have well documented histories and analyses regarding their status.

Smart Growth literature is obtained primarily through the Smart Growth Network and Smart Growth EPA. These organizations have been chosen because they are currently the primary drivers of education and literature regarding the subject, are considered the founders of the movement, provide extensive literature for historical analysis of the subject, and act as a hub for organizations around the country wishing to explore Smart Growth practices. Critical review of Smart Growth is obtained through scholarly journals in fields of planning, economics, and design. Smart Growth is presented as a planning method for cities to employ in regards to comprehensive planning and infill design. This thesis will argue that despite the name Smart Growth, this planning method can and is being employed in shrinking cities or regions seeking infill development.

Historical Analysis and Comprehensive Planning

An industrial history for Altoona is established in order to accurately portray it as a shrinking city, losing population, and now competing with other global cities for talent and employment. This is necessary to establish the unique trajectory of depopulation in the city and to add validity to the comparison of Smart Growth planning to a shrinking city.

In order to establish Altoona as a city pursuing Smart Growth planning, comprehensive plans authored by the city of Altoona and the Altoona Blair County Development Corporation (ABCD Corp.) are reviewed
for language and techniques found in Smart Growth planning documents. Comprehensive plans from the Altoona planning office and the ABCD Corporation are linked with one another due to their influential nature on each other. This is determined for several reasons, 1) each plan was developed in concert with the other as described in each document, 2) each comprehensive plan focuses on similar regions, and 3) the implementation of one plan influences the outcomes of the other. Having established that planning practices in Altoona are in line with Smart Growth planning principles through comparative textual analysis, this analysis attempts to answer the following research questions:

1. Based on the demographic structure what Smart Growth planning practices are viable in cities like Altoona?
2. Based on the demographic structure what Smart Growth planning practices are not viable in cities like Altoona?

**Site analysis**

Several trips will be made to the city of Altoona of check the accuracy of census data, attend planning council meetings, and meet with city officials. Some of the site data obtained on these trips is also used to help determine accurate neighborhood comparisons for Smart Growth and New Urbanism. Some of the physical neighborhood data that is obtained includes housing design, densities, and indications of mixed use neighborhoods.

**United States Census and Geolytics Data Maps**

Much of the demographic data used for comparison is census data organized and downloaded from a web service known as Geolytics. Geolytics is a service that allows users to access census information for the United States from 1970 to 2000. This data for each decade is normalized by census tracts from the year 2000, therefore allowing for accurate spatial-temporal comparison. For example, population data from the 1970 decennial census is reconfigured to fit within the census tracts for the year 2000. Population can then be geospatially represented and comparisons may be made about the migration of population in and around the city from year to year in one unchanging census tract. Utilizing such a process allows more accurate observations about the demographic characteristics of the city and will help answer questions about the occurrence of suburbanization, out migration, and population growth. Geolytics in combination with ArcMap is useful for many other types of analysis depending on how the user wishes to represent the data.

**ArcMap**

ArcMap 10 is a program primarily utilized to process geospatial information. For this thesis, ArcMap is used to compile demographic information at the census tract and block level. Data uploaded in ArcMap is in database format and necessary calculations performed are performed using Microsoft Excel before being uploaded into ArcMAP.

**Demographic Analysis in the City of Altoona**

Demographic information for the city of Altoona is collected to build a historic and contemporary model of Altoona. This model provides an important profile of the city and allows for accurate comparison between Altoona and other cities. Demographic data is presented at the census tract level for the city and the surrounding county; however, when possible, block data is obtained to determine housing and
population densities. The majority of demographic data collected and assessed for this thesis is obtained from the United States Census Bureau. The primary categories used for data comparison are population, median income, age distribution, number of housing units, housing density, number of bedrooms per unit, divisions of labor, education levels, commute times, mode the transportation to employment, and number of persons per unit. The majority of data used for comparison is from 1970 to 2000. Contemporary demographic data is collected from the year 2000 for Altoona, the surrounding county, Pennsylvania and the United States.

**Average Annual Percentage Change (AAPC)**

Demographic change is determined using the Average Annual Percentage Change (AAPC). This is a measurement of the average change over time determined by averaging the average change per decade. The equation for AAPC is as follows:

\[
AAPC = \text{Average Annual Percentage Change} \\
Ve = \text{Ending year} \\
Vs = \text{Starting year} \\
N = \text{number of years between} \\
AAPC = \left(\frac{(Ve - Vs)}{Ve} \times 100\right) / n
\]

**Simpson Diversity Index (SDI)**

The Simpson Diversity Index is a number used to measure the diversity distribution for a number of different proportions. This number is utilized in this thesis to measure the diverse mix of education, labor, and home ages in each census tract and for the city as a whole. The Simpson Diversity Index establishes a number between 0 and 1. The higher a number is, suggests that one particular proportion is weighted more heavily in a region and therefore that region might be more homogeneous. The lower the number is suggests a greater mix of proportions and more heterogeneity in a region. The equation for SDI is as follows:

\[
D = \text{Diversity index} \\
P = \text{proportion} \\
N = \text{number of proportions} \\
D = \sum P^2
\]

Since the this number is only an indication of the diversity mix in a region, if the number is high, it is necessary to go back and check to record which demographic or demographics are dominating in the dataset.
SHRINKING CITIES

According to Tim Rieniets, shrinking cities are a phenomenon of developed nations including the United States, Eastern and Western Europe, the British Isles, Japan and Russia (Rieniets 2005, 30). The causes of shrinkage vary; however, the outcomes are often similar and include depopulation, abandonment of infrastructure, and an overly large municipal footprint (Allweil, 2007). Shrinking cities appear in the United States primarily after WWII. Following the war, industrialized cities around the country begin to depopulate at their core sparked by suburbanization and deindustrialization (Ply, 2009). The U.S. experienced the large scale out migration of the middle class population from their urban cores to the urban fringes fueled by new mortgage offerings by the federal government, the use of a far reaching federal highway system, inexpensive automobile ownership, and a chance to live the new American dream (Rieniets, 2006). Industry in the United States modernized and streamlined operations as new technologies emerged after the war. Modernization led to new innovations in transportation and telecommunications allowing businesses to be located further apart from one another. Taking advantage of improved communications, liberalized trade laws, and cheap transportation, manufacturing in the United States moved overseas to access cheaper labor markets further continuing manufacturing job losses (Muller 2005, 35-42). This process would slow by the 1970s and 80s and the number of shrinking cities in the United States reached their peak (Rieniets 2005, 21-34).

Cities shrink in their own unique manner. Detroit, MI for example experienced a large scale population migration to the urban fringes. The metropolitan region retained the population from the city; however the density of this population at the urban core has been reduced significantly. Cities like Altoona, PA or Allentown, PA experienced depopulation in a different manner. These cities experienced suburbanization and depopulation; however, the entire metropolitan region is depopulating as a whole. Similar to the United States, cities of other developed nations display the qualities of aging urban cores, suburbanized outer fringes, and shrinking municipal budgets. Conditions of shrinking cities in Western Europe are attributed to low birth rates coupled with neoliberal policy (Rieniets, 2006). In Eastern Europe cities have experienced some of the most rapid and detrimental depopulation of any shrinking cities in the world.
These cities, like Leipzig or Eisenhuettenstadt, Germany, existed under Soviet control. These cities operated around a singular industry propped up by the Soviet government. When the Berlin Wall fell in 1989 and the dissolution of the old Soviet socialist system became a reality, these once isolated economies were free to compete in the global market. The steel industry in Eastern Germany collapsed almost overnight. Cities like Leipzig, Germany lost as much as thirty percent of their population in one decade after the collapse (Rieniets, 2006).

Accepting the fact that a city has been shrinking is difficult for municipalities and sometimes considered an admission of defeat. Radio host Rush Limbaugh calls this admission “un-American” devoting several days of air time denouncing this idea (Lunday, 2009). Making this decision more difficult is many cities of the Northeast and Midwest, born in the industrial revolution, experienced continued growth since their incorporation. This had become such a reliable trend that city councils, despite forty years of depopulation, still enact policies for growth and expansion (Rieniets, 2006). Acceptance or not, shrinking cities face a myriad of questions. Justin Hollander, in his article “Planning Shrinking Cities”, describes three primary issues facing these cities and their urban landscapes. His analysis focuses on what to do with increasingly large amounts of underutilized space emerging in urban regions today and also what specific issues cities might address in the near future. His analysis includes:

1. The question of land usage and what to do with emergent vacant landscapes?: Should cities approach this by removing blighted structures and replace them with minimally landscaped installation, increase land holdings, or implement beautification policies resulting in the possible increase of surrounding land values
2. The question of environmental land restoration: This includes forest succession in urban areas, reclaiming flood plains, improving infiltration, storm water mitigation, creating green networks, adding shade trees, community gardens, and urban farming. Hollander explains that much of this might be achieved through grass roots organizations.
3. How to right size infrastructure? Municipal footprints are often overgrown, regardless of the type of shrinkage they have experienced. There is a need by many municipalities to reduce the cost of certain city functions similar to trash removal, water, roads, public transit and police forces.

FACTORS CONTRIBUTING TO SHRINKING CITIES
In the book, Shrinking Cities: Volume One contributing authors explain the conditions that facilitate the environment of shrinking cities. These conditions are: depopulation, globalization, suburbanization, and deindustrialization. The following examines these conditions in greater detail and later describes them as they occur in Altoona.

Depopulation
Conditions that result in depopulation are a loss of industry and jobs, migration to the urban fringes, overcrowding of inner city regions, or the perception of an external threat. Historically depopulation was not an uncommon event (Rieniets 2005, 21-34). War, famine, and disease have at one time or another contributed to a large scale and rapid exodus of urban landscapes. Hollander explains that, “In Late Antiquity, the Middle Ages and the Early Modern periods, diseases, war, fire, and recurrent agricultural crisis all left their mark on European and Asian cities that were never completely abandoned and usually resettled” (Hollander, 2009). The key in these scenarios is that there were often very real external
dangers driving people and commerce from their homes. Today, population is leaving during times of affluence and peace and without the intention of returning (Rieniets 2005, 21-34). Rapid depopulation can catch municipal planning offices off guard. Cities like Youngstown, Ohio are only beginning to seriously address the home vacancy caused by the loss of their steel manufacturing industry in the 1970s (Youngstown, 2010). City planners, architects and designers often only react to the outcomes of depopulation and have very few opportunities to confront these issues before they occur (Rieniets, 2006).

Globalization
Job and industry losses in cities of developed nations can be linked in some ways to the process of globalization. Klaus Muller, in *Shrinking Cities Volume One*, describes globalization according to three world wide trends 1) the liberalization of trade, 2) reduced transportation and communication costs, and 3) new divisions of labor throughout the world (Muller 2005, 35-42). Each process is described in greater detail.

*Liberalization of trade, Policy change, Neo-liberalism and Thatcherism*
First on Muller’s list is the liberalization of trade in commodities, currencies, and capital established in the 1980s. Liberalization resulted in two changes: the shift from old world style economies and the lessening of territorial based politics. During the late 1970s, several developed nations, lead by the United States and British, entered into a new era of governance with regard to industry, labor and finance. Throughout the period following the Second World War, the United States, Western Europe and Japan followed a form of governance that limited the mass accumulation of wealth, imposed stricter regulation on business and financial practices, promoted union organization, and allowed for more state control over market forces. During and following the recession of the 1970 in the United States a new form of governance emerged. Theories of this new ideal, neo-liberalism in the United States and Thatcherism in the United Kingdom, slowly began to dominate the financial and business practices within these countries. Neo-liberalism can be characterized by a removal of state controls in relation to business practices, the removal of regulations to create a free market system, emphasis on the profit motive, removal of union influence within business, and the allowance for the mass accumulation of wealth among a few individuals (Harvey, 2005 pg. 5-38).

Time and space within this thesis do not permit to create an argument of agreement or disagreement with the policies of the neo-liberal agenda in the post industrial era. Discussion instead is aimed toward explaining the effects of neo-liberal policy implemented primarily during the 1980s on shrinking cities. With decreased union strength, limited regulation on business size, and liberal trade agreements, businesses under this policy grew larger, moved operations off shore, and gained greater power over their employment decisions. This policy greatly affected manufacturing in the United States. Many manufacturing jobs were moved to more competitive labor markets overseas based on manufacturing trade agreements in other countries. The resulting move broke the bargaining powers of labor as union employees were eliminated and replaced with new workers.

*Transportation and Communication*
Technology reduces the cost of transportation and communication. An example of this is the manufacturing of steel and iron. This process requires iron ore, limestone, and coal. As steel manufacturing grew in the United States, industry would locate itself around these raw materials. Steel
producing cities in Pennsylvania like Allentown, Pittsburgh, and Bethlehem grew up partially based on their proximity to these raw materials. Pennsylvania, rich in all three, experienced an early boom in steel and iron production. Iron ore, coal, and limestone were readily mined in the surrounding hills thus keeping transportation costs low and these companies close to their assets. As technologies in transportation and ore extraction improved, the need to be in immediate proximity of raw materials lessened.

Business consolidation in cities has changed as well. Business headquarters once having a need to be in close proximity to one another are free to spread out (Lunday, 2009). Through the advent of air travel, faster rail speeds, improved telecommunications, and today the internet, businesses can remain connected throughout the world in almost real time. The need to huddle close together is almost unnecessary. Muller believes that this leads to a fundamental restructuring of urban regions (Muller 2005, 35-42). While some might argue that the advent of the internet will eventually eliminate the need for the city core, Muller describes that this is actually leading to a newly emerging economy where instead manufacturing cities, once the leaders of the industrialized world i.e. Detroit, are giving way to technological hubs.

So, will urban centers lose their function in the global market? Yes, in that industrially based cities, like Detroit, which were once centers of commerce for the world, will no longer wield their same economic influence. Decreasing transportation and communication costs allow for companies to break down the necessary functions of production for their products and spread these operations into the global market seeking reduced labor costs, specialization, and reduced operational spending. So, while Detroit might retain some of the processes to produce an automobile, a large portion of this production is sourced throughout the world. Engine parts are manufactured in China, spark plugs in India, and tires in South America. Even product assembly can be outsourced to Mexico. The company name, corporate headquarters and intellectual capital might remain in Detroit; however the actual production of the vehicles becomes a truly global effort. This reduces the need for extensive manpower in the city for manufacturing but does increase the need for intellectual capital.

In Muller’s discussion; however, some cities in the global market will gain in strength and power. Rather than the complete dissolution of cities as a result of new technologies, some cities like Pittsburgh, PA or New York City, NY are poised to become regional centers in the global market for banking and finance. These cities are seen as making successful transitions to the new service, technology and finance based economies. In these economies, Muller suggests that the world’s economy is still based on geography and that certain financial centers of the world still retain a third of the world’s wealth. These financial centers comprise only three percent of the world’s landmass and are mainly concentrated, with the exception of several European countries, along the coasts and navigable inland waterways. Muller maintains that despite the potential for the economically equalizing power of globalization, those physically located far from financial hubs, like cities in Africa or South America, or those landlocked will not see the benefits of the global economy (Muller 2005, 35-42). His discussion suggests that manufacturing cities in developed nations are in decline; however other cities, those posed to capture the new economies of the twenty-first century will see an increase in population and commerce. This might possibly explain how despite increases in the United States population, post industrial cities in the Northeast and Midwest will continue to experience population and economic decline.
Division of Labor

Labor in the world, whether in intellectual or physical capital, is no longer restricted to industrialized countries like the United States and Britain. Instead, once economically isolated countries like India and China may now compete in the world market and are given the freedom to market and distribute their own technologies and brands. Improved communications has lead to a sharing of innovation and technologies as countries compete globally; this sharing of information has led to new innovations in other countries. Historical manufacturing markets once relied on the control of raw materials however; emerging technologies and particularly intellectual capital are no longer tied to the markets of materials extraction. These technologies may be now be derived from the global market, anywhere in the world.

Suburbanization

Suburban development practices can be characterized by low density residential development, spacious single family detached homes, homogeneous building design, and homogeneous zoning. The suburban lifestyle is characterized as auto dependent; therefore development is oriented around the automobile leading to auto oriented shopping centers with large parking lots, a lack of pedestrian options, and a dependency on a complex variety of roads for mobility. Critics of the suburban model suggest that this lifestyle ushered in an era of oil dependence, traffic congestion, disillusionment, and instability of development practices. Despite what some might believe are shortcomings of suburbanization, close to half of the population in the United States is considered to be living in suburban development (NY Times, 1992).

Robert Fishman, in his segment for Shrinking Cities VI entitled “Suburbanization: USA”, explains suburbanization as a regional restructuring (Fishman 2005, 66-73). Regions are not shrinking but are actually growing spatially, leaving shrinking cities at their core. Industry and people have moved to the periphery. This suburbanization results from a collection of policies and events following WWII. The process of suburbanization is initially attributed to a response to the deplorable urban conditions of the time. Overcrowded tenements, heavy air pollution and a desire for home ownership began to drive people from the city to the urban fringes. Suburbanization received greater facilitation in the years following with improvements in transportation technology, new federal regulation through the Federal Housing Administration (FHA), and an ease toward obtaining a home loan (Fishman 2005, 66-73).

Fishman suggests that areas in the Northeast and Midwest are experiencing not so much the effects of large scale suburbanization but more of a process he terms, “aging in place”. Instead of just shrinkage at the city core the entire metropolitan area is shrinking also. His example includes Allentown and Bethlehem, PA, where economic activity and population have declined region-wide. Population did not simply move to the fringes, but moved from the cities and countryside entirely. The result is a less dense metropolitan area with aging home owners making up the majority of the population demographic. Under these conditions, Fishman speculates that those of the working class close to retirement collected their pensions and bought the homes where they lived. The result is a slow gradual decline of population at the urban core leaving many neighborhoods intact. The economies in these regions are now experiencing a boost in health care as the population continues to age.
Deindustrialization
In order to define deindustrialization, this thesis borrows a definition from a 1987 *Urban Affairs Review* article. The article establishes three criteria to identify deindustrialization in a city: 1) a structural decline in manufacturing employment, 2) a shrinking share of the national or international employment, and 3) an industrial decline that is not compensated by job growth in other sectors (Hill and Negery, 1987). First, job losses must be job losses in manufacturing outside the normal business cycles of an industry. Economic downturns or short term layoffs do not count. Second, the job losses must represent job losses across the entire region. Total manufacturing employment must be in decline for all sectors of manufacturing. Finally, job losses are not being made up in other industries. A good example of this is the conversion of an industrial economy over to a service economy. In this case, jobs are lost in one sector, but replenished by another. In other words, manufacturing must be completely in decline and jobs in the entire region are lost.

ALTOONA, PA

Figure 1.3: Altoona in the greater context of Pennsylvania. The city is situated at the base of the Allegheny Front, ninety-five mile east of Pittsburgh and 230 miles west of Philadelphia. Altoona became an important location for the Pennsylvania Railroad as a center point between these two cities and as a launching point for locomotives ascending the Allegheny Ridge.

From the 1850s to 1940, Altoona is dominated by the rail industry. Altoona was a decision by the Pennsylvania Railroad to create a rail connection between Philadelphia and Pittsburgh (Paige, 1989). The location for Altoona was a centrally located point between these two cities and was cited to be a maintenance and construction site for steam locomotives at the base of the Allegheny Front (Wallace, 1990). The city grew and many satellite businesses operated in the city, but the railroad always remained the central focus. At the height of success for the rail industry in Altoona, the collection of maintenance, manufacturing, fabrication and research shops employed almost 16,000 (Paige, 1989). This was over
sixty percent of the employable male population at the time (United States Census Bureau, 1930). Altoona experienced rapid industrialization and population growth for the first eighty years after its establishment in 1850 (United States Census Bureau, 2000) (See Figure 1.3). Modernization, efficient means of production and the invention of the diesel-electric locomotive minimized the need for the large workforce supported by the Altoona Works. During the 1930s the Pennsylvania Railroad began streamlining manufacturing operations (Paige, 1989). The steam engine was gradually phased out by 1960 (Stover, 1970). Over the course of the next 80 years, 95% of the jobs in the rail shops are either terminated or relocated (Paige, 1989. United States Census Bureau, 2000). Census records indicate that population would begin to decline around the same time.

Physically Altoona grew from the center downtown region outward. Downtown Altoona, Wright and the Fairview neighborhoods represent the city’s oldest regions. Development across the tracks soon ensued with a new wave of skilled immigrants forming the Washington/Jefferson, Penn-Lincoln, and Adams neighborhoods. These neighborhoods lined the locomotive construction facilities at the center of the town running north to south. Later growth in the city is to the south in the Eldorado, Endress, Stevens and Pleasant Valley neighborhoods. These neighborhoods display the more typical suburban neighborhood features with larger lot sizes, few sidewalks, forward facing garages, and a more automobile friendly design. The eastern most fringes of these regions are also home the Logan Valley Boulevard. This southeastern fringe is characterized by strip malls, chain restaurants, traffic lights, and big box stores. Altoona shares portions of this boulevard with the surrounding Logan Township. Development of the Boulevard has been very intense since the 1970s.

**COMPREHENSIVE PLANNING IN ALTOONA: 1990 - PRESENT**

In 1995 the city of Altoona commissioned a community-wide survey, focus group interviews, and neighborhood meetings in order to solicit the community’s ideas regarding the future of the city. Initial surveying began with a mailed paper survey in November of 1995 after approval from the city council. Fifteen hundred surveys were printed and mailed to a selection of randomized addresses in Altoona. The survey asked value based questions ranging from residents’ perceptions of public safety, to the status of education, to their interests in the economy of the region. Of the 1500 surveys mailed, 500 were successfully completed and returned (City of Altoona 1997).
That following spring, city planners organized focus group discussions. These meetings took place the city’s neighborhood schools and were comprised of individuals from various clubs, development corporations, and neighborhood organizations. Some of these organizations included the Altoona Blair County Development Corporation, the Greater Altoona Economic Development Corporation, and the Pennsylvania State University. Much of the information gathered during these sessions complimented the data gathered from the previous paper surveys and provided additional insight into the concerns of local citizens. City planners also organized sit-down meetings with local neighborhood organizations such as the Logantown Action Committee, soliciting information similar to that asked in the survey. The final portion of the information gathering phase included several design competitions inviting grade-school students to draw out and plan their vision for the Altoona of the future. Organizers partnered with local businesses and engaged children from neighborhood schools within the city to help accomplish this goal. Organizers later held an award ceremony to issue prizes for the best and most creative designs.

Contemporary Planning: Altoona 2000
With the surveys and focus groups complete, Altoona city officials, convened into a daylong retreat at the Penn State Altoona Campus to compile the first draft of Comprehensive Plan 1997. Soon after, this plan was edited and summarized into the Comprehensive Plan 2000 which is still in use today. The 2000 comprehensive plan covers a wide range of topics. Based on the concerns of the city’s business leaders, citizens and stakeholder’s, five sections of the comprehensive plan were developed to address what were considered the most pressing needs of the city:

Land Use and Housing
The Land Use and Housing section addresses the land use needs for residential, business, and institutional development. The goals are to achieve a sustainable density in the city, encourage mixed land usage to reduce auto dependency, identify opportunities for walkable neighborhoods, and determine the best practices for land use of the city’s limited undeveloped land resources. The land use and housing plan achieves this by using a variety of tactics like tax abatement, zoning, and incentive programs. The plan focuses some attention on encouraging renovation of property in blighted or deteriorating neighborhoods. In these instances, the city recommends the usage of loan forgiveness and the combination of loans and grants. Loans are encouraged since they are recyclable by the city for other projects. Finances for forgiveness loans and grants are proposed to be made up with liens placed on the properties. Language used in this section is reminiscent of Smart Growth tactics and discusses the importance of the architectural appeal in the region to attract outside interest.

Figure 1.6: Neighborhood development, 1953, adjacent to downtown (edge seen at top of photo). Photo demonstrates neighborhood development next to rail shops and downtown. Today this region is dominated by parking lots and a shopping mall. Photo courtesy of Michael Farrow
In the interest of better informed land usage the city would like to be able to determine the best practices for development. In neighborhoods where density is thinning, the city recommends repurposing homes used for apartments back to single family dwellings. The city also encourages new housing development to be more in line with “neo-traditional” ideals of shallow front lawns, adding front porches, moving garages to the back of the lot, and more compact design. Aesthetically, the city would like to improve the overall image of neighborhoods and the downtown by adding more street trees, removing blighted properties, and the encouragement of development linked to the history of surrounding area. Finally, the city accepts that the rules and regulations regarding land use and development need to be revisited, streamlined and modernized in order for Altoona to compete for residents in the future.

Economic Development and Downtown

Development of this section is based on information provided by the Altoona Blair County Development Corporation Strategic Plan. The goal of the section is to describe the incentives created in the attraction and retention of business in the city and downtown region. There are certain businesses Altoona wishes to attract. Many of the businesses targeted in the comprehensive plan are business that can take advantage of the surrounding resources and existing infrastructure. Again the city would like to revisit the rules and regulations for doing business in the city and make changes where possible to make investment and business development easier.

The second half of this section focuses on business development in the downtown. Developers are encouraged to look for niche markets and avoid markets already saturated in the boulevard region of Logan Township. The plan for the downtown is to strike a quality mix of retail, restaurant and government buildings. Since most of the city government buildings are already located downtown, the plan suggests the courtship of outside federal buildings. In order to garner interest and the rediscovery of the downtown asset, special events are encouraged in downtown to bring foot traffic to the area.
Examination of the downtown plan reveals that the most pressing concern is how to encourage people to come and stay downtown in the first place. Part of the plan suggests student housing from the Penn State Altoona Campus to be located downtown connected by a shuttle service to and from the campus. In addition, the city would also like to encourage the university to locate more new classrooms and office space to the downtown region. The city recognizes that in order to save the downtown people need to become invested in the area, spurring growth partially through the need for goods and services from local residents.

Community Facilities and Services
This plan focuses on the infrastructure of municipal services, like sewer and water, and amenities the city has to offer like parks, recreation and libraries. The city will continue to maintain a quality system of services to the citizens while possibly adding new amenities to attract outside residents. Altoona is also committed to maintaining a high quality police and fire department. Additional revenue sources might be located through an audit of the city taxes attempting to locate tax evaders or by offering certain municipal services like water to surrounding regions.

Transportation
There are several sections inside the transportation plan that the city would like to address: adding a new connection to Interstate 99 via the Kettle Road, reductions in neighborhood traffic, and a connection to high speed rail through the existing rail station. First, the city of Altoona would like to seize upon the opportunity that Interstate 99 offers to the city. Along with a major rail, Altoona is now connected via interstate highway to much of the northeast. This opportunity allows for new business opportunities like warehousing and trucking. Second on the agenda for the transportation plan is localized traffic issues. Altoona would like to improve the connectivity of the municipal roads, reduce accident frequency, relieve traffic in neighborhoods and school zones, and reduce congestions where possible. In addition, the city hopes to diversify the transportation choices of the residents in the city by establishing dedicated bike route, improving pedestrian access, and encourage sidewalks in new development. Finally, the city is hopeful for a new high speed rail connection passing through the city. This plan has some traction in Washington DC and Pittsburgh, PA; however it is not likely that plans will be completed anytime soon.

Natural Features
The natural features plan was developed to address environmental issues in the city and avoid future expenses due to poor environmental planning. The city focuses on directing development away from flood plains, off of steep slopes, and focuses on the preservation of scenic views and landscapes when possible. This section also mentions the need to continually monitor growth so as not to overload the municipal sewage system.

The previous five sections make up the comprehensive plan 2000 for Altoona. It is important to note there that the city does not plan to undertake every single suggestion in the plan at once, but rather the plan is designed as a road map into the future for Altoona. As the city changes development and growth are determined by the scope of the comprehensive plan. The planning department is committed to adherence to the plan in their decision making. The primary goal of the comprehensive plan is not to suggest overreaching or unobtainable goals for the future of Altoona but rather to take a closer look at where the concerns of the city truly lie. The topics that comprise the plan are those direct concerns of the
citizens. The municipal government developed this plan to guide all future policy decisions for the city. Observation of planning council meetings affirms this commitment to the citizens and the comprehensive plan of the city. As planning decisions are made during monthly public meetings the comprehensive plan is often evoked and decisions are checked for adherence to the planning efforts.

Altoona Blair County Development Corporation, the Altoona Visioning Report, Blair County 2030

Planning in Blair County is associated with planning in Altoona in this thesis for several reasons. One, Altoona is a significant influence on the surrounding county since it is the largest city and has been the economic driver for the county over the past one hundred years. Blair County has also been chosen since it has more recently been tied to Altoona through planning initiatives developed by business developers and the city planners. Both developers and city officials take a holistic approach to development in the county and acknowledge the growth in one part of the county is a benefit to all.

The Altoona Blair County Development Corporation (ABCD) is a non-profit business development corporation focusing on Blair County. Due to a multitude of local governments in Blair County, leaders of the ABCD Corporation decided to consolidate the business development efforts of the county under one organization. The two main goals of the development corporation are business attraction and business retention. The organization boasts that from 2001 to 2005 over 3,300 jobs were created in the region as well as over 3,500 jobs retained (ABCD, 2011). ABCD Corporation works closely with local governments and especially with Altoona. Collaboration between Altoona and ABCD can be demonstrated through the consolidated efforts in the development of the Altoona comprehensive plan for 2000 and 2030. The difference between Altoona and ABCD is their scope. ABCD Corporation focuses on Blair County whereas the planning efforts of Altoona are grounded in the municipality.

Part of the recent planning efforts by the ABCD Corporation is the creation of Blair Country 2030. This document is essentially a comprehensive plan for the county. The intention of the plan is to assess and map the direction of the regional economy and to begin to discuss the future of the region. Blair Country 2030 establishes a historical record for the county and Altoona. In this process, Blair County discusses shifts in the United States economy from industry and manufacturing to a knowledge based and service economy. This is demonstrated through demographic research creating a timeline representing the county’s shift from strong manufacturing economy to one today denominated by health care and retail services. The report paints a very positive image of the region and expresses that despite job losses and troubled economies of counties in the country; Altoona and the Blair Country region have weathered many economic storms and remain strong today. The report does however also address the sectors where the region must improve in order to compete in a diverse, global economy.

The ABCD Corporation lists the following five guiding principles for the creation of the Blair County 2030 document:

1. Attract, retain, and develop sustainable wealth generating employment.
2. Attract and retain the talent necessary for wealth generation employment
3. Establish a culture that promotes entrepreneurship, creativity, resource preservation, technology innovation, tolerance and education
4. Aggressively encourage and facilitate the redevelopment of the county’s urban centers
5. Conduct ongoing information exchange and outreach.

The ABCD Corporation lists at least twenty different objectives for the region based on the previous guiding principles; however, only the first ten will be listed here.

1. Grow the population toward sustainable numbers while attracting the 24 to 40 age cohort
2. Increase the local percentage of advanced degree earners
3. Promote life long education to remain competitive
4. Develop and retain regional economic development
5. Promote efficient, coordinated government services
6. Establish nationally competitive land use strategies
7. Work with university for local development opportunities
8. Promote a diversity of architectural design opportunities
9. Direct resources towards the best return, wealth generating opportunities
10. Rebuild the urban cores of the region

As with the Altoona comprehensive plan, the Blair County 2030 is a road map to guide the ABCD Corporation in their decision making. This vision is believed to be a good idea but certainly not the only process that the county might follow. The Altoona Blair County Development Corporation and the city of Altoona share a similar vision for the region; one that is based on attracting growth and also one that is based on the retention and incubation of local talent.
Chapter 4

SMART GROWTH: HISTORY AND POLICY

“Growth is "smart" when it gives us great communities, with more choices and personal freedom, good return on public investment, greater opportunity across the community, a thriving natural environment, and a legacy we can be proud to leave our children and grandchildren.” (Smart Growth Network, 2011)

In this thesis Smart Growth is explored for its viability in the city planning strategies of shrinking cities. This section explores the history of Smart Growth in the attempt to reveal where this planning practice was first developed. Smart growth history reveals that the policy grew out of several planning concepts; but, was originally based in infill development. The history also reveals that Smart Growth is a practice backed by the federal government. The second portion of this chapter involves a closer look into the ten planning practices of Smart Growth. This research attempts to reveal the intentions of each practice and build a basis for comparison with Altoona’s planning strategies. Conclusions in this chapter include a discussion about what practices of Smart Growth have the potential for implementation in shrinking cities and how Smart Growth practices have a place in the redevelopment of shrinking cities.

HISTORICAL REFERENCE

Smart Growth is a collection of guidelines for planning. These guidelines were developed during the 1990s through a collaboration of public and private interests. The history of Smart Growth and the Smart Growth Network is recent and began in several different locations. During the 1990s the State of Maryland, the American Planning Association (APA), and the Natural Resources Defense Council separately began working on guidelines to update planning methods in the United States (Smart Growth EPA, 2011). In the middle 90s, The APA launched research for a new publication entitled, the Growing Smart Legislative Handbook. The publication updated planning and zoning practices established by the, “Standard City Planning and Zoning Enabling Act” established in the 1920s. This publication also revisited the Model Development Code established by the American Law Institute in 1976 (Knapp, 2004). The APA hoped to update planning practices for the modern era and establish a regional approach to planning in the United States.

The State of Maryland took similar initiatives updating their planning and zoning policies for the State. Maryland established the, “Smart Growth and Neighborhood Conservation Act”. This act provided an incentive program targeting brownfield redevelopment, live near your work programs, concentrated infrastructure development, and conservation of rural lands. The program did not require the participation of local municipalities. Instead, the state established incentives and allowed each municipality to choose to participate or not. One example is the concentrated infrastructure development policy. If a municipality desired to develop a commercial park, the state would offer assistance if this development was designated to be built within an established enterprise zone. These enterprise zones were established by the state and were within established city’s, towns or previously developed spaces like brownfields. The municipality is still free to develop where they like, but they will receive assistance from the state if they develop where the state deemed as being a “smarter” location. The program eventually led to the establishment of five different incentive programs offered by the state:

1. Priority Funding Areas
2. Rural Legacy Program
3. Voluntary Clean-up / Brownfield reclamation
4. Concentrated Infrastructure
5. Job Creation Tax Credit

Each of these programs was designed to encourage development and job creation within municipal borders and create a higher housing and population density (Smart Growth EPA, 2011). Taking lead from the Maryland experiment, the Federal Government, working with the APA and the state of Maryland, set in motion the process that would give birth to the Smart Growth Network established today.

In 1991, President G.H. Bush signed into law the Intermodal Surface Transportation Efficiency Act of 1991. The goal of the program was to help the country remain competitive in the global market by reducing traffic congestion, creating new jobs, and rebuilding the nation’s transportation infrastructure. This law established a contingency on transportation funding for municipalities in the United States. Federal transportation funding would only be available for cities pending conformance to the Clean Air Act. This law combined the interests of the Environmental Protection Agency and the Department of Transportation. The combination of these interests would lead to the creation of the Urban Economic Development Division led by Harriett Tregoning. Ms. Tregoning would eventually create the Smart Growth Network managed by the International City/Council Management Association. The creation of the network is important to inform the public of Smart Growth ideas since the federal government cannot directly influence development decisions of municipalities in the United States. This network combines a multitude of organizations working together to develop the principles and strategies of Smart Growth and to help distribute these ideas to the larger public.

THE SMART GROWTH NETWORK
The Smart Growth Network (SGN) is a collection of non-profit and governmental organizations brought together by the Environmental Protection Agency (EPA) in 1996. This organization currently boasts at least forty active partners ranging from the American Institute of Architects to the U.S. Forest Service. This organization is not involved with any direct planning decisions. Instead the Smart Growth Network offers informative guidance for urban development according to principles developed by the federal government, city planners, and industry experts over the past forty years. The network distributes this information to a wider audience.

The mission of the SGN is, “to encourage development that serves the economy, community, and the environment.” (Smart Growth Network, 2010) The network was created as a forum in order to:

- Raise public awareness of how growth can improve the quality of life in a community
- Promote Smart Growth Practices
- Develop and share information, innovation, tools and ideas
- Cultivate strategies to address barriers to Smart Growth and find applicable opportunities

The Smart Growth Network has developed a collection of planning suggestions based on their vision for development. Advocates of the SGN suggest that implementation of these planning suggestions will foster safer, healthier, and more closely knit communities by reducing auto dependency, increasing
housing and population density, promoting mixed use development at the urban core, and preserving green space.

The Smart Growth Network does not promote one singular approach to planning but instead has developed a number of approaches to encourage cities to develop a unique approach most fitting to their existing conditions. Smart Growth is characterized by collection of ten principles for urban development:

1. Mixed land usage
2. Take advantage of compact building design
3. Create a range of housing opportunities and choices
4. Create walkable neighborhoods
5. Foster distinctive, attractive communities with a strong sense of place
6. Preserve open space, farmland, natural beauty, and critical environmental areas
7. Strengthen and direct development towards existing communities
8. Provided a variety of transportation choices
9. Make development decisions predicatable, fair, and cost effective
10. Encourage community and stakeholder collaboration and development decisions

The network does not dictate the completion of these goals. The network suggests an approach similar to the incentive model established by the state of Maryland. The network exists to distribute the idea to the public and to bring together a collection of organizations to help influence municipal development. As with its predecessors, the SGN seeks to establish a new from of planning and development no longer simply based on zoning, subdivision regulations, and comprehensive planning (Knapp, 2004). Smart Growth is aimed at institutional reform. The system takes a holistic approach to planning and seeks to establish development plans for entire regions instead of individual cities.

**Mixed land usage**

The smart growth canons describe and illustrate the importance of mixed use development in new and existing regions of a city. The literature calls for a new vision directed away from single use and a return of diverse usages for land and buildings. This integration includes residential and commercial usage of neighborhoods. The theory suggests that residents will be less auto dependent since residents will be located closer to their work, schools and recreation. Decreased traffic and driving times will also reduce traffic congestion and pollution. Also, as residents return to greater usage of sidewalks and their surrounding environs, this will foster increased community interaction and security. Economically speaking, smart growth advocates cite that locating businesses within residential communities increases land values as residents begin to see the value of locating their housing closer to where they work.

Mixed land use is accomplished by placing amenities for daily use within the neighborhood structure. These amenities include schools, markets and, places of work. The Smart Growth theory offers a variety of ways to accomplish this goal. Smart Growth literature explains this can is accomplished through the restructuring of zoning laws in cities to specify a type of structure instead of a singular land use. This idea provides developers and residents with the choice to determine the use of a building, while the physical and aesthetic amenities are the only aspects guided by the city. Other practices to encourage mixed land usage include using state and federal funds to help public service workers to live close to the
their area of work, developing a parallel plan to work with existing planning structure already established by the city government, and creative zoning practices allowing more flexibility for development. The overall goal is to encourage flexibility in the decision making processes for development and to facilitate the ability for people to live and work within a reasonable distance of each other.

**Compact building design**

Compact building design is not limited to the physical structure of building types. Smart Growth principles suggest that overall neighborhood and community design could be better served with a denser infrastructure. Compact design decreases development pressures on green space, retains infiltration sites, and increases the efficiency of municipal resources. *Getting to Smart Growth VI* suggests that greater density also improves the efficiency of public transit and that, “a minimum density of six to eight households per acre around bus stops would support bus service and fifteen to twenty households per acre would support rail transit.” With regards to compact building design, smart growth authors acknowledge the preexisting obstacles hindering compact neighbor design. The greatest of these obstacles are minimum lot size requirements and zoning against multifamily or attached housing (Smart Growth 2000). Further difficulties include parking requirements and a lack of knowledge for compact development benefits.

In the case of new housing development in residential neighborhoods, Smart Growth policy encourages an older style of neighborhood development. This includes constructing houses closer to the front of the lots to help define the street space, placing front porches on each house to promote opportunities for community connections, placing household automotive parking behind the house while still encouraging some on street parking to reduce traffic speeds, street trees, and ready access to public green space. Smart Growth policies suggest that this may be accomplished through a series of tax incentives and bonuses to neighborhoods that pursue these measures.

**Range of housing opportunities**

This policy in Smart Growth planning calls for increasing the different types of housing units in a neighborhood and facilitating a wider range of housing prices. Doing so, the theory suggests, increases the opportunity for more diverse neighborhoods by encouraging a wider range of incomes types into a neighborhood. Smart growth seeks to foster communities comprised of a multitude of age ranges and income types. One possible path to accomplish this goal is providing home buyer assistance for those seeking homes in older neighborhoods. This might come in the form of tax incentives for renovation or this might be assistance money for first time home buyers. Home buyer assistance and mixing housing types provides the opportunity for a wide range of home buyers in improving neighborhoods. Smart Growth planning encourages a more heterogeneous usage of neighborhoods.
Smart Growth planning suggests promoting the reuse of older structures and recommends making the retrofitting of older structures more practical and affordable for developers. When structures are too far deteriorated, vacant or blighted, only then should they be removed and replaced with newer architecturally appropriate structures. These policies help to encourage different housing types in neighborhoods around the city.

**Walkable neighborhoods**

Walkable neighborhoods are an amenity of mixed use neighborhoods. This idea goes beyond just having a sidewalk. Walkable spaces also include traffic calming measures, i.e., on street parking, narrow streets, and navigable intersections. Walkability also includes design at the human scale and the reduction of monolithic parking lots and superblocks. Referring back to the mixed usage principle of community design, facilitating pedestrian usage of a neighborhood adds benefits of greater security, improved health, and more frequent community interactions.

Smart Growth policy in this case goes beyond the mere suggestion that neighborhoods and business districts should be more conducive to walking, but rather encourages the creation of a network design that links all aspects of the city to walking. Smart Growth policy encourages locating critical need service in neighborhoods as well. These amenities might include doctor’s offices, food stores, and transportation services. Any new development that must provide large areas for parking should be developed in a manner that is easily accessible to the pedestrian and is linked to other networks through the city.

**Distinctive attractive communities**

Many communities have features that lend character to the area. Some places might have scenic views; others might possess a collection of unique and historic buildings. In any case, these features help provide an identity to a community. Smart growth policy is aware of the strength of this identity and suggests using these amenities to the help foster solidarity in communities. New development is encouraged to help create this identity by accentuating the unique quality of the local terrain, instituting a variety of building types, or retaining the local stands of forests among the housing structures.
development can take advantage of historically prominent buildings, education facilities, or celebrate to local ethnic flare of the community.

**Preserve open space**
Smart growth policies aim to protect green space. Without any direct statement, many of the principles suggested by the Smart Growth network inadvertently work towards protecting undeveloped land. Environmentally, undeveloped land erodes less, allows for the natural infiltration of rain waters, retains biodiversity, and helps facilitate a cleaner atmosphere. From a municipal standpoint, undeveloped land represents less fiscal responsibility, potential expansion space, and recreational space for the community.

**Strengthen and direct development to existing communities**
When new development is imminent, smart growth advocates infill development take place where infrastructure already exists. Smart growth principles suggest that municipalities should encourage the reuse of existing structures and find creative uses for brownfield sites. This policy echoes earlier principles of denser growth, mixed usage and preservation of open spaces. Smart Growth policy here relies on tax breaks, codes and zoning to encourage this type of development. Tax breaks encourage movement towards specific locations, whereas codes and zoning control the usage and repurposing of a building. Smart Growth planners use this policy to build communities but more importantly use this policy to help holds communities together. Through the use of tax breaks for home improvement, home owners might make the decision to stay in their respective communities instead of moving to a different location.

**Variety of transportation choices**
Previous smart growth principles began to address transportation; however the SNG has taken the time to develop this idea. Smart Growth does not call for the elimination of automotive transport; however, hopes to alleviate the symptoms of traffic congestion, carbon emissions and sprawling transportation infrastructure. The principle advocates a mixture of walking, biking, and mass transit. Changes in policy to encourage these developments include an increase in sidewalk construction in new development, a decrease in parking space in urban areas and incentives to use mass transit. If parking is to be implemented in urban region, then Smart Growth suggests the use of parking decks and not parking lots.

**Predictable, fair development decisions**
The SGN argues that many of the zoning and code structures of municipalities today are in direct conflict with Smart Growth principles and that contemporary planning instead encourages spaces of singular use oriented toward the use of the automobile. According to the SGN, dismantling this framework is achievable in a variety of manners. Suggestions include a favorable political atmosphere, restructure of zoning laws, financial incentives, and priority given to Smart Growth development. Suggestions provided would be of relatively low cost to the municipality. Cities need only to revisit zoning laws and building codes to build a structure that private business may grow within. The largest cost to the city is a loss of revenue in the short term through financial incentives. The difficulty in achieving this is more often a changing political atmosphere, lending itself to a more unpredictable building climate. Success for this step partially relies on a bipartisan approach to development and a majority of the city believing that smart growth is the best practice for development in the city.
Community and Stakeholder Collaboration

No plan in urban and community development can be successful with the involvement of the community. The Smart Growth Network recognizes this importance and encourages the identification and utilization of the community stakeholder in the Smart Growth process. Essentially, success or failure will depend on whether the community is engaged or not and strength is often derived from within. Identification of your key community stakeholders and the assets will foster organic and grassroots development. Growth at this level is dependent upon transparency of the decision making process and an opportunity for community members to voice their opinion on a wide variety of decisions. Most importantly, the decisions of the community do not fall on deaf ears and that community participation is not merely an exercise of the municipality educating the community on predetermined subjects.

Smart Growth is a policy directed toward growth and infill development. Does this discredit its usage in Shrinking Cities? No. As Fishman suggests, cities are actually restructuring and not merely shrinking. This suggests that development is still occurring in metropolitan areas, just not at the city core. In actuality, Smart growth is trying to recapture this development and redirect it towards those locations with a pre-existing infrastructure. Each Smart Growth principle is a good example of this, wherein Smart Growth policy suggests developing a more friendly development within the city borders and developing towards existing neighborhoods. Smart Growth policy today might be oriented to this type of development as suggested in the latter part of the program development. Smart Growth policy now suggests how to structure new neighborhoods and return to a more historical type of development. The name Smart “Growth” seems to be misleading and only suggests that this program is for growing environments. In the case of Altoona, perhaps the policy of Smart Growth could be sold easier as Smart Restructuring.
Chapter 5

LITERATURE REVIEW

The following literature review represents a collection of scholarly and professional works describing the processes and methods on the subject of shrinking cities and Smart Growth. The literature chosen for this review represent works that describe the methods used to identify the processes contributing to shrinking cities and the methods used to map and describe these places. Comprehensive planning documents are included in this review to provide insights to the planning methods of these cities. Finally, literature for Smart Growth policies and practices are described to provide insights to how these practices are employed in contemporary planning documents.

Comprehensive Planning

Comprehensive planning efforts by Altoona and Blair County are reviewed for perspectives about how the city plans to manage development in the coming years. These plans are also reviewed for language linking them to Smart Growth planning principles. Four comprehensive plans were reviewed for this thesis: two drafted by the city of Altoona and two drafted by regional planning organizations for Blair County. The following is a description regarding the history of development for these plans and objectives they hope to accomplish.

Beginning in the 1990s, the elected officials for the city of Altoona began to identify that a new comprehensive plan to guide the city into the next several decades was in order. Officials began to realize that policies suggested in the previous comprehensive plan were enacted for a city experiencing growth and a larger population. Officials began for draft a new comprehensive plan to guide the city into a new and emerging future entitled, the Altoona Comprehensive Plan 2000. As the idea began to coalesce into a more practical plan, elected officials envisioned the formulation of this plan as a chance to connect with the community and plan for their needs based on the ideas set forth by the community itself. This plan was developed through the collaborative effort the Altoona residents, the Altoona Blair County Development Corporation, the Altoona Department of Planning and Community Development, and the Greater Altoona Economic Development Corporation. The 2000 plan has six areas of planning: land use and housing planning, economic development and downtown planning, community facilities and services plan, transportation planning, natural features planning, and a plan for action. Each of the planning efforts is linked to the importance of economic growth and the need to reduce municipal costs in the city.

Available information in the plan includes: public participation, historic resources plan, demographics, economics (incomplete), natural resources plan (incomplete), future land uses plan, downtown revitalization plan (incomplete), transportation plan, housing plan, community facilities and public utilities plan, energy conservation, implementation (incomplete), compatibility (incomplete), and capital investments. Implementation of the most recent comprehensive plan today is on a case by case basis. Each decision made by the city planning council today is with the comprehensive plan in mind.

Building towards a more robust Comprehensive plan, in 2006, the Altoona city council resolved to gain a greater perspective about the regional needs for Altoona. This resolution led to the Altoona Visioning Report. This report was compiled by appointed members of the regional corporate, financial, tourist and
architectural community. The purpose of the report was to obtain the broad perspective of the regional needs in order to promote economic growth. The visioning report was assembled in collaboration with the Greater Altoona Economic Development Corporation, The Altoona Blair Country Development Corporation, the Allegheny Ridge Corporation, and the Pennsylvania Downtown Center.

Altoona 2030 is the most recent addition to comprehensive planning in the city and is slated to replace the Altoona 2000 Comprehensive. Altoona 2030 takes a more fiscal approach to comprehensive planning in the city and is being developed to meet the requirements of the Pennsylvania Municipal Planning Code. The city is seeking bids from outside resources in the development of this plan and is receiving funding from Federal Community Block Grants. The implementation of this project comes on the heels of the Blair County 2030 report released by the Altoona Blair County Development Corporation (ABCD) drawing on a similar theme and language for the report. This report; however, will be catered to the immediate needs and development of the city of Altoona whereas the ABCD 2030 report focuses on the needs of the county as a whole.

Blair County 2030, released in 2010, is the latest report developed by the Altoona Blair County Development Corporation. This report is an updated version of the “Altoona Visioning Report” and explains the historical background of the region. Blair County 2030 recognizes the need to modernize the economic climate of the region to capture the technological and knowledge based global economy. The eight topics of the report include:

1. The Population Factor
2. Economic Development as Community Development: A Return on Perception
3. Role of the Research University: The New Value Proposition
4. Secondary Education and the “Gold Collar” Worker
5. Workforce vs. the Workplace
6. Building Entrepreneurial Capital
7. Human Infrastructure Development
8. Effective Governance Delivery for Competitive Economic Development

There are several important themes that continually thread themselves through this report. These are population, education, and a favorable living environment. This report continually stresses the need to attract and retain the “creative class” in order to encourage entrepreneurial growth as well as improve the demographic profile of Blair County. The report also suggests the need to improve the region both architecturally and physically to develop an environment more appealing to the knowledge class. The reasoning being that work decisions today are not solely based on the job, but rather weighted along with the quality of life provided by the region. The knowledge based job seeker will consider the region sometimes over the job offering. Finally, this report focuses not only on attracting outside development but looks inward about how to improve the entrepreneurial climate of the region. The authors recognize that growth must come from within and that retention of the regions best and brightest is half the battle.

The most recent comprehensive planning effort from the city of Youngstown, OH was reviewed for this thesis to provide a comparison of other comprehensive planning efforts. Youngstown 2010 is a comprehensive plan guiding decisions for the city planning office. Development of this plan was a joint
effort between the city government and the citizens of Youngstown. Since the late 1960s the city of Youngstown has experienced noticeable losses of industry and population. Youngstown, once a city of greater than 200,000 people, is projected to experience population losses of over 100,000 people by 2030. Prior to the development of the 2010 plan, planning was conducted in the spirit of growth. The citywide plan covers many different topics including the city’s strengths and weaknesses of housing, infrastructure and human capital. The plan then describes these assets for each major neighborhood in the city.

Youngstown 2010 concludes by suggesting ideas for rezoning and the need for community inputs and grassroots organizations. It describes how these ideas can be implemented for each neighborhood in the city. The new 2010 comprehensive plan emphasizes the need for new industry to be “green” and encourages the reuse of brownfields. Outside of suggestions for rezoning, the citywide plan stops short of suggesting the implementation of any new plans or ideas to help quell the rapid shrinkage of their city.

Describing Shrinking Cities

The following represents a collection of contemporary discussions about the underlying causes of shrinking cities. Several articles for this thesis were taken from the text Shrinkning Cities: Volume One as well as literature representing academic opinions. This text collects works by authors around the world attempting to describe the processes that trigger the shrinking city effect. Each article covers a contributing factor to shrinkage of urban spaces. The goal of this discussion is obtaining examples of the processes identified as being the prominent contributors to depopulation and shrinking cities. Included with this section is one critique regarding the difficult task of obtaining Smart Growth initiatives and one article describing the resistance municipality’s face in accepting their declining status.

Tim Rieniets, in “Global Shrinkage” gives account to the history and conditions of shrinking cities around the globe. Rieniets attempts to lend some scale to this condition and also describe that shrinkage of cities in the modern sense is unlike any other historical process. Cities are shrinking today during a time of unprecedented affluence, without war, and during a time of the greatest population growth the world has ever experienced. This article covers the global facts and figures of shrinking cities and includes the different types of shrinkage facing each region of the globe. Finally, Rieniets explains that the shrinking city phenomenon, once limited to industrialized countries is now a global phenomenon. This type of growth, he explains is giving rise to megacities around the global where extremely large concentrations of people are moving to fewer and fewer urban areas and leaving behind a vast array of smaller cities (Rieniets, 2005. 21-34).

In the article “Global Geography”, Klaus Muller attempts to explain the processes of globalization and how they attribute to shrinking cities today (Muller, 2005. 35-42). Muller defines the three major components of globalization as: 1) The linearization of trade in commodities, 2) technological revolutions, and 3) the division of labor. The article covers how these processes have led to the dissolution of the old world style of business and led to the competition for labor and intellectual capital around the world. Labor and business are no longer tied to raw materials and location and communications has improved to the point that the multiple processes of manufacturing are no longer tied to a singular location. Industry is now free to seek the most favorable market. Globalization in Muller’s view has ushered in a new world order for industrialized labor and fueled suburbanization in places like the United States.
Walter Prigge’s article “On the Origins of Shrinkage” is an account of the development of shrinking cities primarily in the cities of the former Eastern Bloc countries. Prigge explains how the socialist structure in which these cities existed created an artificial environment of completion that had no match in the free market. As these countries entered into the free market post 1989, the completion in the open market caused an almost overnight collapse of industry. Further exacerbating the woes of these cities was the mass migration of population to modern, western style cities of Europe. Prigge explains the processes and federal monies used by countries like Germany to help stabilize these regions as they experienced a rapid post-industrialize decline (Prigge, 2005. 43-48).

In his article “Suburbanization”, Robert Fishman explains the processes of suburbanization as they occur around the world (Fishman, 2005. 1-38). Fishman links the process of suburbanization to shrinking cities and attributes this process to being the number one cause of depopulation in United States cities. The article builds a historical account of suburbanization beginning with Howard’s Garden Cities and leading to the modern day edge cities. The article is important in establishing the early sentiment about industrialized cities in the early twentieth century as being over-crowded, polluted, and dangerous. Fishman explains that these deplorable conditions would eventually be the catalyst that would drive population from the city core to the city fringes. Suburbanization in the United States became especially prominent due to large subsidies from the federal government that are still in place today. Europe on the other hand did experience some form of suburbanization but was kept in check by governmental controls on land and public transportation spending.

In the middle and latter half of the twentieth century in the United States, suburbanization and depopulation accelerate the decentralization of the industrialized city through the processes of deindustrialization and racial segregation. Fishman explains that these conditions would eventually cause the wholesale out-migration of population from the urban core in such great numbers that cities like St. Louis, MO, Detroit, MI and Youngstown, OH would lose over half of their population. This left the urban core hollowed out and poor.

The word shrinking is a bit of a misnomer for Fishman. Fishman agrees that the urban core is losing population but in reality what is actually happening in an urban restructuring, wherein population, like the case of Detroit, MI, is actually moving just beyond the city limits. The population and wealth of Detroit has been shrinking, but the metropolitan area has grown considerably and possesses one of the wealthiest counties in the country. Fishman points to this as being the effect that suburbanization has on a shrinking city. The city itself is not shrinking but restructuring. Fishman echoes the sentiments of Rieniet in his view of cities like Allentown and Bethlehem and agrees that suburbanization in these cities may have been less severe due to pensions and retirement settlements and the population staying in the city.

Elizabeth Lunday focuses her efforts researching efforts in Youngstown and Cleveland, OH to raze vacant lots, redirect development toward stable neighborhoods and introduce green space back into the city. The second half of her article is an exploration of the backlash these cities are facing by accepting that their former populations are not likely to return (Lunday, 2009. 68-71). Each of these articles establishes the underlying conditions that lead to shrinking cities. These articles were chosen not only for their important information, but also to explore the idea that the underlying causes that lead shrinking
cities is unique to each city. Having established the environments that lead to shrinkage the next step is to explore how cities are beginning to manage their new identities.

Planning Shrinking Cities

After describing the conditions that lead to shrinkage, authors such as Hollander and Rieniets have also explored the opportunities for planning in these same locations. In “Planning in Shrinking Cities” Hollander describes the conditions of shrinking cities in the United States and Europe. He suggests that shrinking cities are a phenomenon that affects all sizes of cities on many continents and that the shrinking city phenomenon is primarily a widespread occurrence in the developed world. Hollander recognizes that cities affected today are beginning to take notice to their plight of depopulation and an over abundance of unused space and that planners, architects, artists, and activists are beginning to take this issue more seriously (Hollander et al, 2009).

This article provides a brief history of shrinking cities throughout antiquity into the present day and suggests that shrinkage today is a result of the post-industrial shift from manufacturing to service industries. Hollander is careful to separate and describe the different manner in which US and European cities shrink. Although both are linked to post-industrial decline, the timeline at which they shrink, the governmental response, and suggestions toward mitigation are distinct among the continents. Hollander points out that planners in the Unites States are often more reluctant to suggest that shrinkage is even occurring for fears that this may somehow be an admission of defeat. On the other hand, German planners might be more inclined to take a more pragmatic approach to their shrinking cities and experiment with different solutions attempting to relieve vacancy or spur economic growth.

The remainder of his article explores viable research questions that may be applied to shrinking cities today. Some areas of research include:

1. Land use: vacant land is the likely the most visible byproduct of a shrinking city. Hollander provides examples about how to take advantage of these opportunities by reintroducing green space, encouraging public stewardship of the land, and enacting city beautification projects. In Europe, Hollander notes the growing popularity of temporary land usage.

2. Environmental mitigation and ecological restoration: The emergence of vacant space has given the opportunity for cities to reinvent their infrastructure towards more green solutions. Hollander cites cities the world over taking advantage of these spaces for urban succession, community garden plots in neighborhoods, groundwater infiltration, floodplain reclamation, and wildlife habitat.

3. Social equity: Research into the change of social equity shrinking cities is still in it infancy. Studies recently from Pittsburgh, PA alluded that despite the symptoms of shrinkage in their city residents have begun to discover a new city full of opportunities.

4. Density: Hollander points out the two prominent theories employed today in shrinking cities which include, “Urban Islands and De-densification”. Urban Island theories respond to shrinkage by concentrating population and commerce into several hubs around the city. This process involves intense governmental participation through regulation and zoning. De-densification, the antithesis of urban islands, is allowing a once heavily populated city of
spread out, even if this means migration to the suburbs. Homeowners and businesses in this case are encouraged to obtain adjacent properties and develop these spaces as they seem fit.

5. Rightsizing infrastructure: Right sizing is commonly used as a term used in business to describe an internal restructuring in light of changes in their operating environment. Cities are exploring the processes and methods employed in rightsizing to assess oversized infrastructures and “clean house” of underutilized services, roads and programs maintained by the city.

Hollander concludes in his article that research of shrinking cities today is still young and will develop over time. He suggests that there are still many questions to address, especially in funding, issues of inequality, and just how far a city will shrink before it disappears altogether. Hollander notes that the most important issue to discuss today is our perception about what makes a city healthy and not whether a city is simply growing or shrinking.

Rieniet provides a historical analysis of shrinking cities after the industrial revolution. Rieniet focuses on the conditions of overcrowding, ethnic segregation, and substandard sanitary conditions of many cities as contributing factors toward later outmigration of urban regions. As cities began to deindustrialize before and after WWII, many white middle class residents of urban region began to take advantage of subsidized housing on the city fringes and better roads to escape the substandard conditions of industrial cities at the time. Rieniets describes suburbanization as being the primarily condition for the depopulation of cities in the Unites States, whereas in Europe, he describes the profound effect that the collapse of Soviet Union had especially on Eastern European cities of the time (Rieniets, 2006).

This article echoes the sentiment articles by Lundy and Hollander wherein the thought of shrinking cities is mostly a subject that is off limits to discussion among city planners. Accepting the shrinking of a city is equivalent to accepting defeat and a city not growing is a city that is failing. Rieniets adds an interesting point to this thought process. He suggests that regardless of the decisions a city hopes to make in terms of growth and decline, planners cannot stimulate growth or decline. Planners can only guide the process.

The focus of this article is to suggest that this sentiment, toward defeat is changing in the United States and Europe. City planners are beginning to realize that growth is not a practical option for many cities any longer and decisions regarding a city’s future should consider the new realities of oversized infrastructure, outmoded planning practices, and shrinking budgets. Rieniets envisions city planners as guiding cities through the process of shrinking helping to develop the urban environment as better place to be despite the processes of shrinkage and growth.

Author Michael Pyl explores the shrinking city condition with a business like approach. His work demonstrates the indication of a new approach in land planning for shrinking cities. Planning, once centered primarily on growth, here is now focused on a future of a much smaller city (Pyl, 2009). This article collates information from Youngstown 2010, the city wide planning effort for the city, with personal observation and interviews. The author’s goal is to provide a more in-depth look into the 2010 plan and draw out new and innovative strategies for planning in a shrinking city like Youngstown, Ohio. The article reveals a list of land use strategies and tools that can be loosely applied to other shrinking
cities across the country. Additional findings include that planners for the city are not often deriving news tools for planning in their shrinking city, but rather are finding new uses of old planning tools. Land use and planning strategies derived from this research included: greening vacant lots, developing a database of property conditions to classifying city neighborhoods, facilitating the acquisition of vacant property, targeted investments, expropriation/eminent domain, and comprehensive planning for decline.

After drawing out the strategies employed by the Youngstown 2010 plan, the author suggests the possibility for using this type of strategy in another city. He does concede that while some approaches may work in Youngstown, each shrinking city is its own case and should therefore be treated as such. Some ideas from the plan might be useful but there is no “one size fits all” for planning in this climate. Finally, there is a brief discussion regarding municipalities, their shrinking budgets, and the difficulty of finding funding for new creating planning solutions. In the case of Youngstown, the author points out that despite the size of the city of Youngstown and the omni-present phenomenon of shrinking, the city can only afford one planner to resolve the issue of 32 different neighborhoods in a city of about 80,000 people.

Finally, Sean Safford in his book Why the Garden Club Could Not Save Youngstown completes a comparative case study about the planning methods between two shrinking cities, Youngstown, OH and Allentown, PA (Safford, 2009). His book establishes that the social structures and connections established in the early life of each city directly affected the demographic structure of each city following deindustrialization. Safford draws a close comparison by establishing the physical and economic similarities of each city. Safford then establishes the dissimilarities in the growth of social networks within each region. Social networks stated in this book, are the networks that connect civic and industrial leaders in a community. For example, in Allentown, no singular organization, business, of municipal office dominated the direction of the city. The leaders of the steel mills did wield influence in the city, but their power was complemented or kept in check by the financial leaders, the union bosses, or the municipal government. Allentown possessed a diverse collection of leaders and influence and importantly kept these spheres of influence from consolidation. Decision makers of the city were connected through a wide range of organizations like the Boy Scouts of America or country clubs. Safford believes the opposite was true in the Youngstown region. Business, civic, and social leader represented a very small portion of the city. Many of the same people who ran the mills also exercised tight control over the municipality and finance. Therefore, as the mills closed in the Youngstown region, the leadership structure of the city collapsed at the same time; as business and people left, so did the money and decision makers. Youngstown did not have a need for an extensive social network since so few people influenced the decisions of the city. Hence, there were no connections to revitalize the town to be found in the social clubs and gathering spaces of the city, not even in the Garden Club.

From a planning standpoint, the book reveals the success of a diverse social network in a region. Diversity allowed for a substantial failure of industry in the city without the complete loss of all the decision makers in the region. So, as the steel industry faltered in Allentown, decision makers outside the direct influence of the industry remained in the region, remained afloat, and could begin to plan a future in Allentown without steel. Safford demonstrates this point through the network of university, civic and technical leaders that remained after the steel mills closed. Over the course of time, the university connection to the state help technical leaders gain greater access to state funding for business incubation
in the region. The municipality helped find the land. Allentown did suffer from the loss of a major industry in the region, but was able to manage growth soon after. Youngstown did not fare as well as Allentown according to Safford. The resultant loss of industry also resulted in a loss of leadership and finance. As a vacuum formed at the top, Safford argues that the Mafia soon moved in to fill the void further instigating a downward progression of population loss, land devaluation, and rampant vacancy.

Modeling Shrinking Cities
Several articles were chosen for this thesis to help establish a process to assess conditions in a shrinking city. The following articles represent research provided by academics and planners to qualify the methods for observation, the selection of data, and the processing of these data. These articles also reveal the usage of technologies like ArcGIS and Geolytics.

“Urban Development in Shrinking Cities as a Challenge for Modeling Approaches” is a case study of Eastern European shrinking cities used to illustrate difficulty of employing old planning practices to solve a newly emerging phenomenon in cities of the developed world (Kabisch et al, 2005). This article attempts to discuss the different modeling approaches that can be utilized in order to study a shrinking city. The article also suggests a marriage between demographic data, social sciences, and data based urban models in order to take a new approach toward assessment of a shrinking city. The research is focused on the discussion three points:

1. How does the shrinking process today present a challenge to current urban planning concepts?
2. Based on the current observations of shrinking cities, new tools must be developed for planning
3. What type of repeatable processes can be developed to help investigate the shrinking city phenomenon?

The goal of the article is to express that modeling the complexities of a shrinking city requires a study from a myriad of different approaches. Those working in this field should move beyond the scientific method and get out and talk directly to those people directly affected. Models should reveal indicators of predictor variables. Models should focus on information gathered from city wide surveys and statistics. Researchers should incorporate any data that might reveal undiscovered patterns affecting the shrinkage of the city. Some of this data might include the number of housing units or commute times. Researchers should be allowed to make assumptions based on the connections between survey data and proxy data and finally, one should believe that if the study is a focus on the migration behaviors of the home then the most reliable data about these patterns is the data received directly from the household themselves.

Correlations found between demographics plays an important role in the creation of a new model. The article suggests that researchers and demographers alike should take the time and seek relations between demographics or build prediction models to suggest future outcomes. Demographics in this study play the most important role in the creation of a new modeling process in shrinking cities.

Mapping Decline is a detailed account of post industrial decline in St. Louis, MO. This text covers the myriad of planning efforts established by the city in order to mitigate population loss, vacancy, and the
establishment of slums within the city limits. This book also explores the motivations behind planning efforts and methods employed in the mitigation of population and business loss. Importantly, this book describes in detail the shifting demographic nature of the city before and after a wide range of planning efforts. Additionally the book reveals some of the possible racial motivations behind neighborhood growth in city though the efforts of home owners and developers attempting to hem in African American neighborhoods through deed restrictions (Gordon, 2008).

This book is complex and reveals a detailed account of postindustrial decline in St. Louis. Mapping Decline is also a good description of postindustrial decline in the United States, particularly of successful industrial cities of the time. The books covers the failures of smoke stack chasing, the ill fated efforts to contain race, the financial waste of urban renewal, and infrastructural challenge that the automobile brought to the pre-WWII city. This book also reveals the effect of suburbanization on large metropolitan regions.

Ellen Banzhaf in “Monitoring, Mapping and Modeling Urban Decline: A Multi-Scale Approach for Leipzig, Germany” describes several different approaches to modeling a declining city using Leipzig, Germany as a case study (Banzhaf et al, 2007). Methods include analysis of Landsat data, municipal statistics data, very high resolution color inferred satellite data and predictor variables such as fertility, life expectancy, migration, and residential usage. This multi variable approach attempts to explain spatially and temporally the occurrence of change as it develops in a shrinking city in an attempt to develop a model for future use. Leipzig is used as an example for its observable changes in depopulation, high unemployment, and suburbanization. Leipzig, a city in the former East German Republic, was once the forth largest city of Germany with about 700,000 residents. Changes following the break-up of the Soviet Union and reunification with West Germany have brought about notable changes in the housing market and population of the city. As depopulation and deindustrialization accelerated in 1990s, the German federal government made several attempts to prop up the local economy through investments and public monies. As a result, widespread misinvestment occurred, resulting in an overinflated housing market and vacancy throughout the entire city. This resulting housing vacancy has grown to nearly 30 to 50% in some districts of the city. Housing vacancy now affects newly renovated housing projects and recently developed housing sectors. One solution to this development has been the demolition of recently built housing developments to equalize the demand in the housing market.

Smart Growth: Policy and Critique
The final portion of this literature review is the study of Smart Growth, Smart Decline, and New Urbanism. Information gathered for Smart Growth policy is collected from the Smart Growth Network. Included in this section of the literature review is an important critique written by a professional city planner. This has been added to begin the discussion about a few of the short coming of Smart Growth planning and also to gain a more clear perspective about the arguments of the opposition.

This is Smart Growth provides a brief but thorough description of Smart Growth; the program goals, and examples of the ten Smart Growth principles in action. This text is excellent for those new to the smart growth idea and would like to obtain a better knowledge about what the program actually entails. Examples in the handbook describe smart growth principles in practices throughout the country.
*Getting to Smart Growth* is the follow-up text to *This is Smart Growth*. This book was developed for those who have become interested in the Smart Growth theory and would like to seek information about the implementation and practices of the ten principles. Each principle is explained in detail and is accompanied with examples of how to implement each principle at the local, state, and federal level. Included in each section are examples where selected communities are highlighted for using specific smart growth principles to solve issues in their communities. This text is long, but not long winded. Examples are to the point and enough are given for each principle that city planners and developers are likely to be inspired by at least one to implement in their community. The myriad of examples provided in *Getting to Smart Growth* reveals that Smart Growth goes beyond the simple aesthetics that critics accuse the program of practicing and establishes that the Smart Growth program is very open ended approaches allowing cities to work with the theory as they seem fit and implement new ideas at anytime. This text has been extremely helpful linking the Smart Growth planning theory the comprehensive planning works utilized by the city of Altoona.

New Urbanism and Beyond: Designing Cities for the Future” is a collection of about sixty-six different articles covering a wide range of aspects regarding New Urbanism (Haas, 2008). Certain articles were selected for review from the text; however a scan of the overall content reveals the close and sometimes indiscernible relationship to Smart Growth. Several articles provide a good background to the thought process of New Urbanist development. Many of these articles do enforce the architectural importance of the movement and are not afraid to create a correlation between pleasant living condition and successful cities. This is an excellent text to go to when there is question about New Urbanism except for the chronological history.

As a former consultant, infill home builder, and nonprofit housing builder for the city of St. Louis, Mr. Farris offers a unique insider perspective to infill and smart growth development. The purpose of the article is to describe the barriers in place in cities and municipalities that hinder infill or smart growth development. Mr. Farris describes that the costs, red tape, and special building practices required in order to build within city limits represent a hurdle that few if any developers are willing to surmount (Farris, 2001. 1-46).

Christina Lindsey’s article of smart decline practices covers a history of shrinking cities in the United States and Germany (Lindsey, 2009. 68-74). This aim of the article is to explain policies employed in Youngstown, OH, Detroit, MI and Leinefeld, Germany that point to practices for mitigation of vacant property as these cities continue to shrink. In Germany, she points to initiatives that help encourage populations at the urban fringes to move back to the urban core. This is accomplished through forward thinking by the city mayor and development practices that demolish underutilized structures at the edges of the city and policies that rebuild the city center. Smart decline practices in Youngstown include first accepting that the city is depopulating and developing a plan, Youngstown 2010 encourages neighborhoods in serious decline to continue to depopulate and return to green space. For those neighborhoods left standing, the city will direct resources to these locations and encourage development only in these regions. The purpose being that by reducing the number of neighborhoods the city must maintain the city will save considerable money in the future. Detroit, facing similar issues as Youngstown, is proposing the demolition of vacant properties coupled with the encouragement of grass roots efforts to implement more green space back into the city. The mayor has also halted any new
development in the city. The article concludes with a brief discussion about the United States development policies favorable toward suburban development and how a restructuring of these policies might encourage growth in city centers again.

In “Moving Towards a Shrinking Cities Metric”, Hollander attempts to provide context to Smart Decline in the context of Flint, Michigan’s declining neighborhoods. Hollander takes a hands-on approach in this study and verifies his demographic changes from the census for neighborhoods in Flint through direct observation. This practice allows him to directly compare his demographic studies with observable changes in the physical environment thus allowing more thoughtful comparisons to be made regarding demographic change in depopulating neighborhoods in Flint (Hollander, 2010. 129-141).

This article describes a model for the collection of demographic data, lists the possible drawbacks to using this data, and suggests how to possibly avoid these errors when using census data. The first concern is spatial-temporal comparison of neighborhoods. Hollander suggests the usage of an online service known as Geolytics. This company has painstakingly normalized census data from 1970 to the year 2000 by census tracts established in 2000, thus allowing for accurate comparison over time. Second, a decrease in housing unit occupancy does not explicitly denote a relation to neighborhood decline. People leave neighborhood for any number of reasons. Direct observation will help facilitate a more accurate description about why a neighborhood is losing population. Next, is the issue of land use change verses housing density. Observational changes in housing density (here described as number of person per housing units) does not necessarily equate a change in the number of housing unit per acre nor suggest an increase in vacancy in a particular area. Several solutions to this error include direct observation of the region itself or comparison of this data to other factors as population density, occupied housing units and housing unit vacancy. Finally, from a physical planning standpoint, the changes within a household are not as important as the physical change occurring in a neighborhood.

Above all Hollander in this article is concerned with occupied-housing-unit density with Flint neighborhoods as his case study. This density is used as a measure of loss in shrinking cities, applying a tangible observation to study shrinking cities. The results of this article reveal that each neighborhood included in the study experienced a unique challenge with regards to depopulation and how each region responded to community, crime and vacancy. Hollander explains that despite the fact each neighborhood resides within the city of Flint, the effects of depopulation have an important connection to their current status. His article also reveals that not only is each shrinking city a unique case in itself, but neighborhoods within a shrinking city are unique as well. This might suggest that as a city works through plans for mitigation of depopulation and industrial decline, there is no one sweeping solution that will solve all the cities problems

“Smart Decline in Post-Carbon Cities” by Frank and Deborah Popper explores the history of Smart Decline practices through the example of declining Midwestern prairie cities. There discussion seeks to obtain reference from the experience of past shrinking cities of the Midwest and how previous planning efforts allow cities to completely shrink into history. This is a great exploration about how planning polices allowing cities to shrink can be met with great resistance or treated as words of wisdom. The purpose of the article is an attempt to build off of past experiences in order to address modern issue of shrinking cities (Popper et al, 2009).
The goal of this literature review is to collect in one location important works in the emerging study of shrinking cities. Each section represents an attempt to gather work regarding different levels of approach to accomplish a complete study of this subject. This literature review also establishes the framework that is employed in the thesis to describe shrinking cities. Smart Growth literature included with this literature review is included to establish a solid background on the subject. Research into smart decline is utilized to discern whether this planning approach is a viable planning method to link in cities like Altoona.
Chapter 6

DEMOGRAPHIC PROFILE OF ALTOONA, PA

This chapter will identify and define the demographics utilized for building a demographic profile of Altoona. Contained within each definition is a description about how the data was obtained, manipulated, and why it is chosen for this study. After obtaining information for each demographic, the data is then described in the context of Altoona and the surrounding county. When applicable these data are compared to the state and national averages. Demographics chosen for this study are based on a collection of suggestions offered by articles in the modeling portion of this thesis. Banzhaf and Hollander suggest that besides the typical demographics of housing and population used to describe shrinking cities, researchers should look into a multi-variable approach and develop a collection of demographics unique to the location of study. The demographics chosen for this thesis represent demographics like population and housing to describe the physical nature of shrinkage, education and employment to reflect suggestions in the comprehensive planning efforts of Altoona and Blair county, and transportation to describe contradictions to Smart Growth planning. Conclusions of this chapter describe the instances where demographically Altoona is most similar to the nation and surrounding county, and those instances where Altoona displays noticeable differences in demographics. Those instances where Altoona possesses large anomalies in demographics are used in later discussions about the difficulties of Smart Growth planning in shrinking cities.

Population Data
Population
data are downloaded from Geolytics and the United States Census. A time series is developed beginning with the 1970 census and ending in with the 2000 census. Population information for each census tract is mapped and displayed by their actual population figures and by density. Density is calculated by dividing the actual population figure of the census tract, or block, by the land area of that census tract. Population information is also calculated into an average annual percentage change (AACP) and displayed using ArcMap. AACP will provide an insight to population change from the 1970s to the present. The goal to displaying population change is to help answer questions about the population of the region. Some of these questions include: If the population is decreasing in the city, where is it going, is there inner city migration, what is the rate of decrease, and how does population change over time? Population is graphed using Microsoft Excel for Altoona beginning from the first census record in 1850 to the present day.

The population in the city of Altoona is decreasing. Population decline is present in all but one census tract. Population decline has been occurring since 1930 and has steadily declined at a rate of about 7% each decade although the census figures reveal that this trend is slowing down (See Figure 1.2). The neighborhoods experiencing the greatest population decline include the census tracts surrounding the downtown to the east and south, including Penn-Lincoln, Washington-Jefferson, Endress and South Altoona (See Figure 5.1). Downtown demonstrates the least population decline in the city, losing only seventeen residents since 1970. The only census tract to steadily gain population is Wehnwood. All other census tracts in Altoona have depopulated since 1970. The oldest neighborhoods of the city are
denser than the surrounding fringes. This suggests a suburbanization of the city with larger lots sizes and less houses per block. This will be further discussed in the discussion of housing in Altoona.

Blair County declined very little in population over the past thirty years and has grown by about one percent between 1990 and 2000. During the decade between 1970 and 1980, Blair County grew in population by nearly twenty percent. The growth experienced during the 1970s was in the census tracts surrounding the city of Altoona. Population losses in Altoona in 1970 were -6,000 residents whereas, Blair County, gained about 15,000 new inhabitants. This suggests a large scale suburbanization of the population from the city proper to the more rural surrounding regions and possibly a large migration from surrounding small towns to the Altoona region as well. At the time of writing this thesis, no known anomaly has been uncovered in this research to account for this population gain. The subsequent decades have demonstrated limited variation in population numbers Blair County. Population gains in Blair County account for less than half of the population losses demonstrated in Altoona during the past thirty years. Altoona continues to lose population and the population of Blair County is steady. This could be attributed to a continued outmigration over the entire region coupled with high mortality rate.

Age Distribution
The distribution of age groups in Altoona is similar to the age distribution of the state Pennsylvania. Compared to the distribution of age groups in the United States, the city of Altoona and the state of Pennsylvania possess smaller proportions of the 24-44 age groups. Compared to the state and national averages, Altoona possess larger proportions of age groups older than forty-five. The surrounding Blair County region, more closely resembles the state age distribution proportions for the year 2000.

Proportions of age groups in the neighborhoods of Altoona are well distributed and no single age group appears to dominate, except for the downtown and Wehnwood regions of the city. Wehnwood, possess a larger proportion of 18-24 year old persons. The downtown age demographic appears to be dominated by persons sixty-five years and older. Age distribution around Blair County appears to be well balanced with no particular age group dominating any one region. The proportion of persons over the age of sixty-five is slightly higher than that in Altoona. Data collected from the 1990 census reveals that Altoona, Blair County, and Pennsylvania were below the national average in the 35-54 age bracket and above the national average for those sixty-five years and older. Today the region still remains higher than the national average for persons sixty-five and older.
**Number of persons per unit**

Number of persons per unit is calculated by dividing the number of persons in the city by the number of housing units. This number is used to draw conclusions about the size of the physical structures in the city with the number of people living in those households. This number is checked against the state and national averages in order to reveal whether the Altoona family size is similar to the national family size.

**Education Distribution**

Type and levels of education are not mentioned within the Smart Growth principles or literature; however, this is an important topic in the Altoona 2000 comprehensive plan and the Blair County 2030 report. Furthermore Blair County 2030 suggests that college graduates aged 24 to 35 are depopulating shrinking cities resulting in an imbalance of high school graduates left behind in the city (ABCD, 2011). The result is a workforce with limited capacity to compete in the national and global market. Education levels are used to help determine the extent of this condition in. This information is separated into five categories: 0/8 years of education, 9/12 years of education, high school diploma of equivalent, some college, and college educated. Education levels are categorized by the highest level of education a person over twenty-five has obtained. The mix of educational levels for each census tract in Altoona and Blair County is determined by the Simpson Diversity Index. This is utilized to provide a clearer picture of the educational mix of each neighborhood and also can be used as comparison with other demographic data in that same census tract.

The distribution of education in the city of Altoona is heavily weighted towards those over twenty-five with a high school education. This demographic makes up over half of the population over twenty-five years old. This demographic is also ten percent above the state average and over twenty percent above the national average. In contrast, those over twenty-five possessing any type of college degree make up less than thirteen percent of the population. This is fifteen percent below the state average and twenty-five percent below the national average. A measure of the diversity of educational attainment in the city confirms a low diversity index. Since 1970, the number of high school graduates has increased by fifteen percent and the number of those never graduating high school has dropped below the national and state averages. Since 1970, the percentage of college graduates has increased in the city by almost ten percent. The neighborhoods of the city possessing the greatest concentration of college graduates are at the fringes. The most highly concentrated regions of the population in the city with no high school education are the downtown and the census tract immediately to the northeast of the downtown known as Washington-Jefferson.

The surrounding regions of Blair County share similar educational demographics as Altoona with only a slightly higher percentage of college graduates in the region. Percentages of the non high school educated and high school educated population in Blair County are within at least one percent of those in Altoona. Education attainment types seem to be homogeneous throughout the region.

<table>
<thead>
<tr>
<th></th>
<th>0/8 Years</th>
<th>9/12 Years</th>
<th>High School</th>
<th>Some College</th>
<th>College</th>
</tr>
</thead>
<tbody>
<tr>
<td>Altoona</td>
<td>4.73</td>
<td>13.27</td>
<td>49.94</td>
<td>13.89</td>
<td>12.11</td>
</tr>
<tr>
<td>Blair County</td>
<td>4.82</td>
<td>12.50</td>
<td>49.90</td>
<td>14.31</td>
<td>14.93</td>
</tr>
<tr>
<td>Pennsylvania</td>
<td>5.47</td>
<td>12.63</td>
<td>38.11</td>
<td>15.54</td>
<td>28.25</td>
</tr>
<tr>
<td>United States</td>
<td>7.55</td>
<td>12.05</td>
<td>28.63</td>
<td>21.05</td>
<td>30.72</td>
</tr>
</tbody>
</table>
Housing Data

Housing Units

Housing units are of a peculiar interest since as the population of Altoona continues to decline the number of housing unit in the city remains relatively constant. This is mentioned by Justin Hollander as occurring in some neighborhoods around Flint, MI. Data for individual census tracts are collected using Geolytics. The change in the number of housing units is represented by using the AAPC for each census tract unit. Housing Unit data is collected at the block level in order to accurately portray housing density around the core of the Altoona. The total number of housing units for the entire city will be tracked from the turn of the century until the present day and compared with the total population of the city during the same time period.

The number of housing units in the city has remained stable since 1940 (See Figure 5.2). As of the 2000 census, Altoona possesses about 21,000 housing units. This number represents a six percent loss of housing units since 1950 and a less than one percent loss of housing units since 1940. The number of persons per household have declined steadily during this time and as of the year 2000 and there are now 2.33 persons per household in Altoona. This is very closely matched to the state and national averages. This number is also closely matched to the surrounding region. Due to the relatively small reduction in housing units for the city the density of housing remains stable for much of the city; however the neighborhoods that experienced the largest reduction in population have also experienced the greatest reduction in housing units since 1970. These regions include census tracts immediately surrounding the downtown. Neighborhoods that added new housing units from 1990 to 2000 are those adjacent to the Penn State Altoona Campus and two others at the city fringes. Each of these census tracts gained between 100 and 200 new housing units. Recent observation has revealed infill development close to the downtown region; however these figures were not available during the time of writing.

The surrounding region of Blair County added new housing units every year since 1970. Almost every census tract in the region has experienced housing growth as well since 1970, further suggesting a suburbanization of the region. Those census tracts representing the largest amount of housing growth in Blair county correlate with the greatest amount of population growth in the region as well and the only regions to lose housing units during the 1990s where several census tracts within the immediate vicinity of the city. Two of these tracts were regions within close proximity of the core downtown region of Altoona.

Housing Unit Vacancy

![Figure 5.2: Housing Units with Population, Altoona](image)
Housing unit vacancy aides with comparisons between Altoona and Smart Decline practices, aides in comparison with Smart Decline practices, and provides a description of blight around the city. Vacancy data according to the United States Census is vacancy of housing units. Geospatial data of vacancy are displayed as a density through the course of this research rather than as a representative number for census tracts. Census tract size varies widely for the Blair County region and there is a possibility that larger land areas could encompass larger quantities of vacant structures compared to their smaller counterparts. By dividing the number of vacant spaces by the total land area, a figure of density is. Data is again calculated using the AAPC.

The city of Altoona has experienced an increase of vacant housing units since 1940. This percentage does not represent a significant portion of the total housing units in Altoona and the number has fluctuated up and down during the past sixty years. The greatest number of vacant units, 2011 housing units, was recorded during the 1990 census and was reduced again by the 2000 census to 1622 units. The greatest increase in vacant housing units came during the same decade as an increase in housing units in the city. Altoona has been able to manage vacant housing units and follows an aggressive policy of removing blighted properties as they appear. The percentage of housing vacancy in Altoona, 7.5% in the year 2000, is at least one percent below the state average and two percent below the national average. The highest densities of vacant housing units are in the downtown and those regions immediately surrounding the downtown region, especially the Garfield portion of the city. As a side note, numbers obtained from the 1950 census reveal that Altoona experienced a less than one percent housing vacancy at this time and the addition of 4000 new housing units.

Blair County possesses a low concentration of vacant housing units and like Altoona are below the state and national averages as of the 2000 census. Similar to Altoona, housing vacancy reached its highest percentage during the housing growth period of the 1980s. The greatest concentrations of housing vacancy are spread throughout the county, but seem to correlate with census tracts surrounding or adjacent to smaller towns in the region. There is no suggestion offered to this pattern, although only one of these census tracts is in immediate vicinity to Altoona.

**Housing Density**

Housing density is determined by dividing the number of housing units buy the area of a region. Density is determined for the census tract and block level. ArcMap will be used to determine these densities. Housing densities are established in order to compare the current housing densities of neighborhoods with the densities suggested in the comprehensive plan. Housing density is also determined to compare with desirable densities suggested in Smart Growth principles as densities that facilitate public transit.
Number of bedrooms per unit
This number is used as a representative for housing size in the city. Number of bedrooms per units will help determine the mix of housing opportunities for comparison with comprehensive planning goals. A mix of housing opportunities is also important to Smart Growth design. If possible this number will be combined with housing values in the same region determining a general idea for the mix of housing types and prices in the region.

Age of Housing Units
Smart Growth and New Urbanism wish to preserve a range of housing units in a city or neighborhood. Housing age data for each census tract are broken into eight categories. These categories are homes built before 1939 and homes built during each successive decade until the year 2000. This information is obtained from the Geolytics website. The diversity of housing ages in a census tract is calculated using the Simpson Diversity Index (SDI). If one specific housing age dominates in a tract, then the SDI number should be closer to one. In this case, the number of housing units of each respective age in that census tract is reviewed in order to determine the dominant housing age for that region.

As of the 2000 census, over fifty percent of houses surrounding the downtown region were built before 1939. The fringe regions of the city possess the lowest of homes built before 1939. Home at least eight years old represent fifty six percent of the housing stock in Altoona whereas, new homes built after 1990 make up less than seven percent. The mix of housing ages at the southern edge of the city suggests a suburbanization of that region after WWII. These numbers are twenty percent above the state average and more than forty percent higher than the national average for homes built before 1939. Using the Simpson Diversity Index reveals that the mix of housing ages in Altoona is low and is dominated by homes at least sixty years or older.

The surrounding county region is more diverse in housing age than Altoona. The remaining towns, Hollidaysburg, Tyrone, and Roaring Spring, in Blair county make up for the majority of the thirty percent of homes built before 1939; however, each subsequent decade of home age is closely matched to each other. The percentage of home ages in Blair County more closely resembles the percentage of home ages in the state of Pennsylvania being only slightly higher than the state average from 1970 to 2000. Blair County still lags behind the national average only slightly in the percentage of newer homes.

Employment
Divisions of Labor
The Blair County 2030 plan lists the proportional shares for the types of employment in the region. This information is very helpful to this thesis as it provides a good picture about how the region is shifting from an industrialized economy to one that is more service oriented. The Blair County 2030 report combines the demographic numbers for the county as a whole. This thesis will rely on census data to gain a more accurate summary of employment in the city of Altoona. Demographic information will be collected for the entire county with regard to types of employment. This is helpful to check the numbers provided by the Blair County 2030 report and compare with similar numbers in Altoona. Types of

| Table 5.2. Percentage of Homes Built before 1939 (United States Census, 2000) |
|--------------------------|-----------------|
| Altoona                  | 55.7            |
| Blair County             | 29.7            |
| Pennsylvania             | 30.3            |
| United States            | 15.0            |

As of the 2000 census, over fifty percent of houses surrounding the downtown region were built before 1939. The fringe regions of the city possess the lowest of homes built before 1939. Home at least eight years old represent fifty six percent of the housing stock in Altoona whereas, new homes built after 1990 make up less than seven percent. The mix of housing ages at the southern edge of the city suggests a suburbanization of that region after WWII. These numbers are twenty percent above the state average and more than forty percent higher than the national average for homes built before 1939. Using the Simpson Diversity Index reveals that the mix of housing ages in Altoona is low and is dominated by homes at least sixty years or older.

The surrounding county region is more diverse in housing age than Altoona. The remaining towns, Hollidaysburg, Tyrone, and Roaring Spring, in Blair county make up for the majority of the thirty percent of homes built before 1939; however, each subsequent decade of home age is closely matched to each other. The percentage of home ages in Blair County more closely resembles the percentage of home ages in the state of Pennsylvania being only slightly higher than the state average from 1970 to 2000. Blair County still lags behind the national average only slightly in the percentage of newer homes.

Employment
Divisions of Labor
The Blair County 2030 plan lists the proportional shares for the types of employment in the region. This information is very helpful to this thesis as it provides a good picture about how the region is shifting from an industrialized economy to one that is more service oriented. The Blair County 2030 report combines the demographic numbers for the county as a whole. This thesis will rely on census data to gain a more accurate summary of employment in the city of Altoona. Demographic information will be collected for the entire county with regard to types of employment. This is helpful to check the numbers provided by the Blair County 2030 report and compare with similar numbers in Altoona. Types of
employment categorized for the employed population are the number of employees working in each employment sector sixteen years or older and includes: health care, retail, manufacturing, food service and lodging, construction, transportation, professional services, waste management and finance.

As of the year 2000, Altoona supports a diverse array of employment types ranging from professional services to the service economy. Altoona, a city once dominated by the manufacturing, only supports about five to ten percent of these types of jobs today. The top five sectors of employment in Altoona include: 1) Trade of Craft (19.1%), 2) Professional/Technical (16.1%), 3) Administrative Support (17.0%), 4) Sales (13.3%), and 5) Executive (7.0%); these numbers represent the proportion of workers sixteen years or older. Altoona is below the state and national averages of thirty percent in the Professional/Technical sector and at least ten percent below the state and national averages for sales and manufacturing positions. The city does possess a proportionately higher amount of service workers, twenty percent, compared to the nation and state average of thirteen. Those considered working the professional or technical sectors are well distributed throughout the city with highest concentrations in the four census tracts at the very south end of the city and in the Wehnwood district of Altoona. Service workers are well distributed throughout Altoona but are concentrated more towards the north end of the city.

Data for Blair County regarding the division of labor presents a similar demographic pattern to that of Altoona. Each possesses similar leading employment sectors with proportions within one percent of each other except for the service sector, where Blair County is more similar the state and national averages of fourteen percent. Blair County leads Altoona and the national average in farming employment by two percent but is still below the state average. There is no one section of the county that possesses a dominate proportion of any particular type of worker.

Average Family Income
Income information received from Geolytics is broken into separate census tracts for the entire Blair County region. Average Family Income (AFI) is the combined income of a family unit. According to the Population of the United States:

Families usually pool their incomes to make different kinds of purchases. Thus looking at the income distribution of households and families is a much better gauge of the purchasing power and the economic resources available to most Americans (Anderton et al., 1997, pg 54-102).

For the most accurate comparison of financial information received from 1970 to 2000, income data is adjusted for inflation to match the buying power of the dollar in the year 2000. This is achieved using inflationary multipliers received from the United States Department of Labor. Converted data is then assessed using the AAPC.

As of the 2000 census, the median income for families in Altoona was $36,758. This is below the national average of $50,046 and below the state average of $49,184. The median income of families is unevenly distributed throughout the city. The highest median incomes, $48,587, in Altoona are concentrated in the Baker-Wilson region of the city and the lowest median incomes, $14,300, are located in the downtown. The lowest median family incomes are located in the north end of the city and are in
the older neighborhoods surrounding the downtown. The exception to this trend is the Wehnwood neighborhood. Higher median incomes are located in the southern potions of the city. Median income for Altoona as a whole has remained stagnant for the 80s and 90s.

| Table 5.3. Comparison of Average Family Income, 2000 (United States Census, 2000) |
|---------------------------------|------------------|
| Altoona                         | $36,758          |
| Blair County                    | $41,218          |
| Pennsylvania                    | $49,184          |
| United States                   | $50,046          |

Median incomes for families in Blair County are higher than Altoona but still below the national and state marks. The median family income in Blair County is $41,218. The highest median incomes are $54,348, in the Scotch and Sinking Valleys Blair County. The lowest median incomes can be found in Tyrone and to the very southern end of Blair County. Median income for Blair County has remained stagnant for the decades of 1980 and 1990.

Transportation

Mode of Transportation to Employment

Smart growth supports the virtues of possessing a variety of transportation choices that a well planned city provides. Combining commute times with types of transportation used to get to work is useful in determining whether a variety of transportation options are viable. Modes of transportation used to get to work are separated into several categories: by car, carpooling, public transportation, walking, or those who work at home. This set of the population is sixteen plus years old and employed. This is further categorized by whether the population lives and works within the metropolitan region.

The automobile is the preferred form of transportation in Altoona. Over ninety percent of all workers commuting to work do so by the automobile. This includes even those who live within the downtown and the densest regions of the city. Altoona is above the state and national averages for those who commute by car by about ten percent. Those who travel using public transportations are concentrated in the downtown or the immediate surrounding neighborhoods. There are at least ten census tracts in the city that report no usage of public transportation as a means to get to work. As of the 2000 census, only one percent of the commuting population in Altoona reports using public transportation as a commuting tool. This is below that state and national average of five percent. The city of Altoona is slightly above the state and national average for those to commute to work by foot at five percent. The highest concentrations of pedestrian commuters are in older growth neighborhoods surrounding the downtown. More suburban style neighborhoods and those further away from the center city possess no pedestrian commuters.

Similar to Altoona, over ninety percent of residents in Blair County commute to work by automobile. The remaining portion of commuters surprisingly commutes to work by foot. Pedestrian commuters are not just limited to other towns in Blair County; since rural regions possess concentrations of pedestrian commuters too. Blair County falls somewhere in between the state and national averages for walking commuters with this demographic being concentrated to small towns scattered throughout the county. Usage of public transportation for Blair County as a whole is almost nonexistent. Those regions close to the city of Altoona or smaller towns in the region possess a limited number of public transportation commuters. This is likely due to a lack of a public transportation system in rural areas of the county but present at the city edges.
Commute Times

The commute times for the population of Altoona are helpful when combined with the type of transportation used to get to work. Commute time categories include the number of persons with a commute time 1) less than twenty minutes, 2) a commute time between twenty-one and forty minutes, and 3) a commute time greater than forty minutes. The average commute time for the country, state and region are determined by the United States Census. The Simpson Diversity Index is utilized here to determine the mix of commute categories in a census tract.

A large proportion of residents residing in Altoona enjoy a commute twenty minutes or less. This commute time represents commutes to places within the county and often very near the city as travel times from the top to the bottom of the city can take between ten and twenty minutes. In the city, the numbers of residents with a twenty minute commute time or less has increased by about 2000 residents since 1980, while the number of residents with a 20-40 minute commute has dropped by almost 3000 residents. During the 1990s, those with a commute time greater than forty minutes increased by 150% to 1,500. Short commuters are spread throughout the entire city, whereas the highest concentration of commutes with longer commute time are located at the city edges in the Juniata region of the city or near Interstate 99 in the Baker-Wilson neighborhoods.

Outside the city, the vast majority of the population also enjoys a commute time of twenty minutes or less. This region has also seen a drop in the middle range of commute times and a 200% increase in the number of people who commute more that forty minutes to work. Commuters with long commute time in Blair County are concentrated toward the northern end of the county with the highest concentration being in Antis Township. The city of State College, PA is greater than forty minutes to reach from Antis Township. Another region of Blair County to the west, Sinking Valley, also possesses a higher concentration of workers with long commute times. This region is also a region that has experienced a large influx of suburban style development during the 1970s and 80s. The average commute time in the United States and Pennsylvania is twenty-five minutes and the average commute time in Altoona is seventeen minutes.

Numbers of cars per household

The number of cars be household is useful in comparison with the Smart Growth ideals of neighborhood design. Having an excessive amount of vehicles in the city might be a hindrance to the compact design of neighborhoods, establishing walkability, or promoting diverse methods of transportation.

In the category of car ownership, the majority of Altoona households own at least one, two, or three cars. Of these households, the Juniata section and Penn/Lincoln neighborhoods are leading the city in automobile ownership. The proportion of households owning a multiple number of cars is well distributed throughout the city. Downtown Altoona represents a region will little car ownership and many households have no automobile at all.

The number of automobiles per household in Blair County increases compared to Altoona as well as the number of homes with multiple vehicles. Households with one car are the leading category. There are more households in Blair County with no car then there are in Altoona. No one region of Blair County
seems to dominate in households with multiple vehicles, except Hollidaysburg may have more cars per home than anywhere else in the county.

Summary of Demographic Profile in Altoona and Blair County
Depopulation for the city of Altoona is occurring in all portions of the city, except for Wehnwood. The greatest numbers of depopulation are occurring in older neighborhoods like Penn-Lincoln and Garfield. The number of housing units in the city remains stable with an increase in vacancy. The greatest numbers of vacant units are again in older neighborhoods of the city; however, the fringes of the city are beginning to show signs of empty units as well. Housing units are dominated by homes built before 1939. The regions of Altoona possessing the oldest homes are also the regions with the greatest depopulation and vacancy rates. Home ages in the southern region of the city are more evenly distributed. Average income is not evenly distributed throughout the city. The regions of the city with the greatest median incomes are also regions with the greatest number of college graduates, the greatest concentration of persons with a commute time longer than forty minutes, and a greater concentration of professional and technical workers. Residents in the city own a great number of cars. Altoona possesses a smaller proportion of college graduates and greater proportion of high school graduates compared to the state and national averages. Residents in the city on average enjoy shorter commute time than others in the nation. Median incomes in the city are about $10,000 below the state and national average. Finally, about half of the out migration of the population from Altoona appears to be absorbed by the surrounding suburbs; however the other half of this statistic appears to be leaving the entire region.

Blair County shares similar characteristics with Altoona. Education distribution and obtainment are very similar with a more heavily weighted population over the age of twenty-five having only a high school diploma, the division of labor is very similar, and commute times to the population’s respective place of employment is less than twenty minutes on average. Compared to Altoona; however, the surrounding county enjoys a larger distribution of higher median incomes and a greater mix of new housing types. Residents also own a greater proportion of automobiles per household.
Chapter 7

HOW DOES ALTOONA RANK AS A SHRINKING CITY?

This discussion borrows descriptions for shrinking cities offered by contributors in *Shrinking Cities Volume One* and those developed by Hollander and Ply. Based on history and demographic structure, Altoona is portrayed as a shrinking city possessing the qualities of depopulation, deindustrialization, suburbanization and globalization. This discussion concludes by agreeing that Altoona is a shrinking city; however the there is indication that Altoona is unique in this process.

Altoona and Depopulation

Altoona has been losing population for over seventy years. Compared to the population heights of the 1940s, the city has declined in population by almost one half today (See Figure 1.4). Population is moving to the suburbs; leaving the county, or passing away. Depopulation in Altoona might have some benefit to the city within the context of population density. The compact size of the city has lead to a dense infrastructure that remains in neighborhoods surrounding the downtown. The comprehensive planning effort suggests that densities in some neighborhoods may still be reduced. The comprehensive plan also suggests careful planning decisions for future development as vacant land is still scarce in the city. More recent data collected reveals that the population decline in Altoona is slowing. The most recent 2010 census reveals Altoona lost about 3000 residents over the past decade. Compared to population loss in past decades this might be signaling that the population losses in the city are actually beginning to level off.

Depopulation in Altoona is reminiscent of Robert Fishman’s observations of a city aging in place. In his discussion, Fishman explains that cities like Allentown and Bethlehem, PA, have retained a certain portion of their populations due to pensions staying in place after the factories closed. This condition in Altoona might be why the number of housing units in the city has remained stable for so many years. As the population density decreased, those close to retirement bought their homes, spread into adjacent lots, converted old apartments into single family homes, or build their own homes in vacant spaces. Housing does not seem to be a major issue in Altoona for now, although the housing stock is uncommonly old. Altoona has managed their vacancy rates well and has managed to consistently it below the national average.
Altoona and Deindustrialization

Altoona is defined as a deindustrialized city using the definition established in chapter one by Hall and Negery. Their definition listed three criteria that define a deindustrialized city: 1) a structured decline in manufacturing employment, 2) a shrinking share of the national or international employment, and 3) industrial decline that is not compensated by job growth in other sectors. Altoona closely resembles the first two criteria. For one, Altoona did experience a structured decline in manufacturing. Manufacturing related businesses have decreased. Of the 16,000 positions once provided by the rail industry in the 1930s only about 1,000 remain. This is largely due to the modernization of the rail industry and improvements in safety. Secondly, the types of jobs lost in the rail industry no longer exist in the world today. As the rail industry modernized those jobs that supported the old industry like boiler makers, rivet makers, switch men, signalers, brake men, coal tenders faded away. These jobs losses represent job losses throughout the entire rail industry. Finally, is the question as to whether other industries stepped in and replaced a large portion of jobs in the region? This is partially true. Employment demographics in the city reveal that Altoona is making a successful transition into the service and professional sectors. Over the past several decades, Altoona diversified its types of employment beyond labor and manufacturing. So, are job losses over the decades a result of all sector employment losses or a result of jobs losses in the railroad industry? Indeed, as the rail industry and manufacturing slowed in the city of Altoona, satellite businesses suffered, but there is the possibility that much of the skilled labor formerly employed by the rail industry could be reintegrated into other jobs sectors of the city. Skilled workers are smart workers and who those remained may have found their niche in the city. As the manufacturing sector shrunk, other types of employment are slowly emerging. As a result, Altoona may be a deindustrialized city in many respects, but perhaps due to the gradual decline of manufacturing in the city, the city managed a slow recovery into the service and skilled labor sectors. Today manufacturing employment represents about five percent of the working population whereas retail, healthcare and services are the drivers of the Altoona economy representing over twenty percent of the working population.

Suburbanization in Altoona

Suburbanization occurred around the city; however, population data for Altoona compared with population data for Blair County suggests that the population losses for the overall region are greater than those just relocating to the suburbs. Altoona is losing population and the county is absorbing some but not all of these population losses. For example, between 1980 and 1990, Altoona shed some 5000 persons whereas the surrounding suburbs gained about 1000 new residents, leaving a difference of 4000.
people. This difference is likely a mix of out migration and aged persons passing away. Determining this balance is difficult but there is some evidence that a larger proportion of people in Altoona are passing away rather than moving.

On the ground observation reveals indications of suburbanization. The southern regions of Altoona display suburbanization after WWII in housing types and ages. Suburbanization may have also occurred before the large scale implementation of the automobile to Bellwood and Tyrone in the northern portions of the county. Much like street car suburbs of the mid to late 19th century, Bellwood and Tyrone had dedicated street car systems from Altoona to each respective town. Newer development, today, can be witnessed in surrounding communities like Duncansville, the outer edges of Hollidaysburg, regions between Altoona and Tyrone, and many surrounding farmlands.

Altoona does fit the description that Rieniets offers about regional restructuring. Locations at the southern fringes of the city and those areas outside of the city limits contain elements of suburban neighborhoods. To the southeast, Pleasant Valley Boulevard and the neighborhoods that surround it contain strip malls, auto centric neighborhoods and endless stretches of parking lots. Population; however has not strayed too far from the city limits and remains close to the urban fringes. Furthermore, depopulation of the urban core is occurring, but the center city still retains a good density of people and houses.

**Altoona and Globalization**
Job sectors growing today in Altoona do not represent jobs sectors competing on the global market like high tech industries. The best performing job sectors today are industries that are hard to globalize like healthcare, construction and certain service sectors like restaurants. This might offer some good and bad outcomes for the city in the future. The lack of global industries might hinder the attraction of a younger more educated demographic to the city. Also, as the city moves into the future, the retention of this demographic may be more difficult. This outcome is suggested by the underrepresentation of college graduates and the twenty-five to thirty-five year old demographic but does not necessarily indicate that the lack of high tech modern jobs is the reason. It could be due to the abundance of jobs not requiring an advanced education or the saturation of workers over thirty-five.

In the past, Altoona suffered losses in other types of manufacturing, especially in industries like textiles that suffered losses throughout the country. Other industries like iron and steel also greatly affected by
globalization in the United States did have a presence in the early part of Altoona’s history; however these business types were driven out in the early portion of the twentieth century. Locomotive construction did not move through the processes of globalization but more through the process of modernization.

Possibly, due to the gradual decent of rail sector and the gradual ascent of newer industries during the age of globalization, Altoona is slowly managing to capture businesses that compete well on the global market. This might be illustrated by the remaining amount of manufacturing jobs in the city as well as the high numbers of trade’s people remaining. The presence of manufacturing in Altoona is still partially attributed to the streamlined rail manufacturing facilities in the Juniata region of the city. This type of manufacturing is not likely to relocate to foreign markets due to the domestic infrastructure of the industry and the need for a dedicated transportation infrastructure. Furthermore, gains in the healthcare and construction sectors of the city also represent jobs that cannot easily be performed in foreign labor markets and delivered back to the United States.

Altoona and other Shrinking Cities

Similar to other shrinking cities in the United States, Altoona began the process of depopulation soon after World War II. Suburbanization soon followed at the city fringes. Suburbanization of the surrounding regions cannot be fully determined by the methods used in this thesis; however, the growth in homes built after WWII at the fringes of the city did increase during this time. Depopulation is likely more related to the lack of jobs in the region and not solely the process of suburbanization as demographics reveal that population for several decades would decrease both in Blair County and Altoona.

Altoona does not compare well with shrinking cities of Eastern Europe except in the historical dependence on a singular industry to support the city. Industry in Eastern European cities, like in the case of Leipzig and Esienhuttenstadt, collapsed virtually overnight and spurred large proportions of population to move away in as little as a decade (Prigge 2005, 43-48). Time did not permit for the exploration of other European or global cities to obtain a better comparison with Altoona, although other railroading cities throughout the world might be a good start. Comparisons between European and U.S. cities are difficult based on the structure of their federal governments. Countries like Germany have devoted significant amounts of federal dollars attempting to assist cities like Leipzig mitigate depopulation. On the other hand, the United States federal government has offered block grants, TIF loans, and smart growth programs, but federal dollars do not seem to be specifically target the abatement of shrinking cities. If anything, federal programs, in the United States still encourage the outward growth of cities.

Altoona is set apart from other shrinking cities by the manner in which the city is shrinking. Altoona has deindustrialized; however the process has been gradual. Compared to cities like Flint and Youngstown where industry was lost virtually overnight, the railroad industry in Altoona has shed jobs gradually over many years. Furthermore, as manufacturing slowed the railroad industry in Altoona phased out work and offered pensions to those close to retirement as well as flexible schedules to those transitioning into other work. At one point the railroad went so far as to offer six months on and six months off to employees to help retain some of the talented labor force still remaining in the city (Wallace, et al., 1990). This slow decline all culminates into an opportunity for the city to more effectively transition into new industries.
and could also result in the city being spared from large scale exodus of population and tax base. People
did leave and are still managing to do so today, but this depopulation is more manageable compared to
other cities.
Chapter 7

SMART GROWTH PLANNING AND SHRINKING CITIES

Aspects of Smart Growth planning have a place in shrinking cities today. Smart Growth has a history of infill development and currently targets development toward the urban core. This final chapter attempts to explore what aspects of Smart Growth planning have their place in shrinking cities like Altoona with a discussion based on a historical demographic analysis of Altoona and attempts to establish what principles of Smart Growth work best in this context. Having established viable practices of Smart Growth planning in Altoona, the second section of this chapter will explore what conditions existing in Altoona act as a hindrance to Smart Growth planning. This section reveals that despite the best efforts of planning or despite the physical structure of the city the homogeneous demographic profile of Altoona may act a barrier to growth and development. The final conclusion for this section and this thesis explains that Smart Growth planning does have a place in planning of shrinking cities today; however demographics should be of greater consideration.

Viable Aspects of Smart Growth Planning in Shrinking Cities

The following explores the viability of Smart Growth practices like mixed use development, compact building design and walkable neighborhoods in the context of shrinking cities. Herein, it will be demonstrated that these practices have a place for planning in a shrinking city like Altoona. These three principles are described as being complementary to one another. This section begins by discussing the importance of fair and predictable building practices as being the catalyst to spur the beginnings of Smart Growth. Conclusions revolve around the belief that many aspects of Smart growth planning have their place in shrinking cities today; however not all may be attainable at once.

Development Decisions Predictable and Fair

Perhaps the most important aspect of Smart Growth planning in shrinking cities is the policy of fair and predictable planning. As Farris offers in his discussion about the barriers to infill development, the greatest challenge Smart Growth faces in shrinking cities are outdated development polices and over priced building costs in urban spaces. Coupling this discussion with Fishman’s arguments of urban restructuring, a clearer picture emerges about the nature of shrinking cities like Altoona. These places are experiencing development; however this development is pushed outside the urban core. Farris might argue that development outside the city limits is encouraged by difficult building practices within city limits. If a city were able to redirect this development and make development more favorable in the urban core, cities like Altoona might be able to regain any new development as it appears. The following describes how fair and predictable development practices are accomplished in cities and how these policies may be implemented.

Smart Growth advocates not only call for an architecturally pleasing environment but also for one that is more friendly and encouraging to development. As the policy describes, Smart Growth cannot be achieved unless business and development practices are fair and transparent. As described by Ferris, development in the urban core is often expensive and loaded with red tape. Smart Growth seeks to ease some of these policies and suggests that cities reexamine their development practices for policies that might be creating barriers for growth. Some of these polices include outdated codes and construction
permitting. In this case, it might not be this type of development that is dismantling urban cores but rather the policies and codes of historical urban development acting as barriers. Planning in Altoona is addressing this issue today. Planners in the city have not only implemented policies for dense growth, but have also streamlined development decisions and created a more favorable environment for growth within the city limits. There is some difficulty in assessing whether this approach has produced successful results for the city, however recent infill housing near the urban core and a slowing of the population decline might be early indicators that these decisions are producing results.

Proponents of Smart Growth describe how the processes of gaining variances for mixed use development further hinder the implementation of better planning practices. According to the SGN, predictable fair development decisions begin with greater collaboration between the government and private businesses. If municipal government is largely in control of development practices through zoning and ordinance, then a complete restructuring of the rules might be in order to help encourage Smart Growth practices in private business. This is only half of the puzzle, however. New rules implemented by the city must follow a regular pattern and be assessable to all and not just a select few developers.

Without the implementation of this practice all other policies of Smart Growth are likely ineffective. As Farris suggests, the causes keeping cities from renewed growth and development is are more likely due to archaic development policies aimed at controlling rapid growth and the high costs of inner city development. No matter what practices a city choose for future development, Farris argues that these conditions are omni-present. Therefore, cities must address the issue of how to make development more enticing within the city core and less attractive in the cheaper hinter lands. This Smart Growth policy addresses this condition head on.

**Mixed Land Use**

The legacy of mixed use neighborhoods is still active in Altoona today. Neighborhoods throughout the city still maintain an array of restaurants, bars, retail establishments, and churches. In order to maintain the tradition of mixed use development in Altoona, city planners have reworked the zoning plan with these policies in mind. One example of this is the new “Light Commercial Residential” zoned regions. In this instance, the city is rezoning industrial portions of the city that remain close to residential sectors of the city and encourage office space, restaurants, and clothing stores to be mixed with residential housing. These rezoned areas calls for a mix of housing units and apartments interspersed with commercial organizations. Buildings will be encouraged to grow upward, but the zoning ordinance will determine the maximum height in order to maintain a neighborhood feel. Planners also suggest utilizing the remaining historical structures as much as possible, thus retaining the original context of the neighborhood (Altoona, 2000). In instances of marginal building structures, buildings are encouraged to be replaced with parking. Planners developed these zoning regions with specific portions of the city in mind. The neighborhoods sought after for this type of development have higher levels of traffic and also possess houses and structures that could better accommodate commercial and residential development within the same structure. This zoning type is also located in regions of the city where mixed use has been active since the late 19th century.

Much of the historical infrastructure of Altoona is already at some point of mixed usage, therefore lessening the need to enact radical policy changes or restructure entire regions of the city towards a new
type of development. Altoona, at minimum, needs to continually encourage and guide existing development throughout neighborhoods without major changes in policy. Although, the city has proposed a major restructuring for zoning, in reality this new zoning reflects conditions that already exist to some extent. For instance, in those locations of neighborhoods where the corner store exists, the city simply zones this space for commercial usage. Altoona wins by not having to work extensively to define and campaign for locations in neighborhoods where mixed use development could be viable and the neighborhoods win by retaining a piece of history and convenience. Furthermore it might be possible to suggest that the idea of mixed land usage in a city like Altoona is an easy sell to the population since many living in the city already take advantage of this benefit daily.

Mixed land use is important in a city like Altoona. Apart from defining different neighborhoods, this type of development keeps people, business and infrastructure in neighborhoods within the city limits. Mixed use increases density and provides residents with the option to live and work within their own neighborhoods. Altoona benefits from mixed use development for these very reasons and is in a good position to maintain this policy today. Maintaining this practice could be of benefit to the city in the future also as urbanism and city life become more fashionable or if transportation costs dramatically increase in the future.

**Compact Building Design**

Altoona is still compact in many locations. Using block data from the United States census reveals that neighborhoods surrounding the city still retain a density of at least five homes per acre (See Figure 7.1). Efficient, two and three bedroom homes dominate neighborhoods surrounding the core of the city. Walking through these neighborhoods reveals densely packed townhomes, duplexes and apartment buildings gradually giving way to closely situated single family homes radiating out from the city core. Despite their dense nature, many of these homes offer back yards, garages, and alleyways. The dense nature of building has also situated many neighborhoods within walking distances of downtown, elementary schools and city parks. Coupled with mixed use development, Altoona has a great opportunity to regain the self sufficiency of many neighborhoods and retain its historical character.

Planning efforts in Altoona mirror Smart Growth polices by encouraging mixed use neighborhood design, encouraging upward not outward growth, and aiming to achieve a density of six to eight homes per acre in most neighborhoods.
Due to rapid population increases and the need to be situated in close proximity to employment, building upward became a necessity and helped physically define the development pattern of Altoona. Adhering to suggestions in Smart Growth policy may help strengthen this historic neighborhood structure today. Also, in order to maintain densities needed for public transportation and the efficient use of resources, planners for the city are discouraging businesses and homes from expanding into adjacent lots, but instead to expand upward reserving space for infill development. Altoona has the advantage of possessing a ready made infrastructure of back alleys, homes placed forward on the lot, and front porches. This infrastructure puts Altoona at a great advantage for Smart Growth policy in neighborhood design. Planners do not need to sell the city on a completely new form of development in their neighborhoods.

Encouraging a compact building plan for cities like Altoona is a difficult prospect to maintain. Demographics reveal that those neighborhoods in Altoona with the greatest densities are also neighborhoods with the greatest population declines. The question today is whether people will actually be willing to live in tightly packed neighborhoods again without compact building design being a necessity? Again, this is hard to determine since most census tracts continue to lose population and the regions that are most dense are the regions with the greatest population losses. This might suggest that the neighborhood population densities are the reason for population decline, but these neighborhoods are also the poorest in Altoona and those neighborhoods with the greatest concentration of homes older than 1939. There are many factors for a person’s reason to leave these neighborhoods and do not necessarily discredit the compact design structure.

So why is this density so important to shrinking cities today? This has something to do with the cost of maintaining infrastructure compared to the density of the neighborhoods. By placing more residents into a smaller space, the city can more effectively deliver municipal services to the population. Cities like Altoona have the great advantage in this aspect. If the city is able to encourage this type of growth in the years to come then even in the face of decreased budgets and depopulation maintaining the municipal services of the city is not an impossible task.

**Walkable neighborhoods**

Walkable neighborhoods perform a valuable function in a city like Altoona and complement the functionality of mixed use and compact neighborhoods. As mentioned previously, Altoona and shrinking cities alike possess an infrastructure predesigned to fit this function. Promoting a more pedestrian friendly environment could encourage the greater use of existing mixed use amenities and provide a better example for an argument of compact design.

Many of the older regions of the city are structurally compatible for walking. Gridded streets, multiple entries into and out of neighborhoods and amenities still within walking distance comply with suggestions laid out in the Smart Growth policy. In fact, many cities like Altoona, developed before the invention of the automobile were designed with the pedestrian as the central focus (Smart Growth Network, 2011). In all rights, neighborhoods throughout Altoona are great models for walkable neighborhoods. In more recent decades the walkability of the city has been reduced through the presence of busier streets, more parking lots, and wider lanes of traffic. Today, planners seem to be addressing this issue through the improvement of traffic safety and by encouraging the reduction of traffic in neighborhoods. This signals a move to recreate the once pedestrian friendly atmosphere of Altoona and could spur the reconnection of
a pedestrian network. Language in the 2000 comprehensive plan suggests the reduction of traffic in neighborhoods and locating regions of the city where traffic calming measure might be implemented. Additionally, the city seeks to improve the overall atmosphere of neighborhoods by adding street trees, another suggestion offered in Smart Growth policy.

Altoona has a unique history of growth and shrinkage contributing to the distinctive profile of the city. As the city continues to shrink today, Altoona is addressing alternatives to planning for the future. With Altoona possessing a dense, multi-use infrastructure, Smart Growth practices appear to be a natural solution to planning issues regarding growth and decline; however the planning approach might not be the final solution. Those practices chosen from the previous discussion represent the first steps that a shrinking city might address before adhering to the entire policy. In the case of Altoona they are cited for their continuing functionality in the city and their ability to help mitigate infrastructural costs. Despite population losses, Altoona has maintained the ability to retain some development. If recent observations about demographics are correct and the population decline is beginning to subside then Altoona might actually experience a need for better development standards in their city. In reality, this thesis could argue any number of elements that suggest that all Smart Growth policies are viable in a shrinking city. These practices are just as valid as devices to promote infill development as they are for newly developing towns and cities. Smart Growth literature expresses that the implementation of these practices will foster interest in neighborhoods if the correct amenities are in place. Maybe this is the case in Altoona as well.

**Difficulties of Smart Growth Planning in Shrinking Cities**

There is difficulty in determining the specific policies of Smart Growth planning that are not viable in a shrinking city like Altoona. Smart Growth offers a myriad of opportunities for cities to implement and improve the surrounding environment, but as in the case of Altoona, Smart Growth planning might only be part of the solution. Altoona is structurally a city that Smart Growth planners are seeking. So, why is it then that Altoona does not perform as the ideal Smart Growth city? Despite the best architectural practices of the old city design, Altoona contains an unbalanced array of demographics that could better answer why the city is not growing. Altoona possesses an over abundance of high school only graduates and is missing a portion of twenty-five to thirty-five year olds. Altoona retains a disproportionally large amount of homes older than one hundred years. Altoona also retains a great number of population over sixty-five. In defense of Altoona, the city does not solely rely on the policies of Smart Growth to help alleviate some of the city's woes. The city has taken a multistep approach and incorporated a wide array of planning initiatives. For example, Altoona relies on a system of tax credits and loans to help alleviate some of the expenses of the population with older homes. The city has also created the Altoona Redevelopment Authority for the purposes of guiding development initiatives. Smart Growth does not suggest this nor does the policy rely much in the way of financial incentive. This policy is utilized however as a positive addition to planning policy in Altoona. Perhaps this is the best use of Smart Growth when implemented in shrinking cities wherein the planning theory is only one part of a larger planning scheme.

The following discusses several difficulties of Smart Growth planning in shrinking cities. Those discussed as being incompatible planning policies for now are: 1) offering a variety of transportation choices 2) offering a wide array of housing options, 3) and the increased use of public transportation. These polices are believed as never being viable in a shrinking city like Altoona; however based on the
current demography, these policies are portrayed as having a limited capacity at the present time. Conclusions for this section discuss the need to address the demographic disparities of the city and focus on the underlying causes of shrinking.

Variety of transportation choices
This is a difficult proposition in a city the size of Altoona, especially with the limited number of participants that use the current public transportation system today; although, Altoona did once support and active trolley and street car system. Today, planners are exploring greater expansion of the bussing system as well as the implementation of bike routes throughout the city; however, the overwhelming majority of the population commutes by car, often to destinations within or not far outside the city. There is a possibility; however, that Altoona might be discouraging alternative transportation. Sections throughout the comprehensive plan speak of the greater need for parking in Altoona and not of a greater network of alternative transportation choices. Focusing on auto transportation is likely the reality in Altoona and a well thought plan given the great number of cars in the city; however, the thought process does go against the idea of encouraging alternative transportsations according to the Smart Growth initiatives. The introduction of a high speed rail service running through the city has been mentioned in the comprehensive plan; however this plan is still in its infancy.

Create a range of housing opportunities and choices
Offering a variety housing types might be a large obstacle to overcome. Many houses in Altoona are almost one hundred years old, of the same size, and are of relatively the same design. The comprehensive plan does address this issue by offering “preservation easements” to those interested in rehabilitating historical structures; however in reality, the cost of renovating well over half of the housing stock in the city might prove overwhelming. A vast collection of homes generally of the same type, shape, and size might act a barrier to diverse housing types in neighborhoods and may also promote a monoculture of those living in these neighborhoods. Altoona at the moment can do relatively little about this issue since the alternative is to tear down and rebuild a large portion of the existing housing infrastructure. The comprehensive plan does offer some types of assistance for the rehabilitation of homes in certain neighborhoods and these funds might be used to create the illusion of housing diversity in a region.

Use of Public Transportation
Despite the amenities of dense neighborhoods and aspects of a public transportation system designed for commuter usage, census figures reveal a limited usage of public transportation. The city has followed the transportation ideals of Smart Growth planning and made an effort in the city to make public transportation a viable alternative for persons to get to work. Whether planned or not, the aptly named “Early Morning and Night Owl” bus route travels through the densest neighborhoods and delivers passengers to locations where business is concentrated. This results in the greatest proportion of public transportation ridership being in close relation to these locations as well. This ridership; however represents only about one percent of the entire commuter travel in the city. Altoona is a city still dominated by the car and over ninety percent of commuters still use the automobile to get to work despite a relatively short average commute time. Perhaps planners in the city might look further into the diversity of workers in these neighborhoods and seek new stops or locations where others workers may be traveling. This may also be why the city is looking to further increase the density of neighborhoods in the
city. If the density increases and public transportation becomes a more viable option for a wider range of neighborhoods, the efficiency of the public transportation system increases also.

Smart growth cannot be fully discounted for use in a shrinking city; however there is some question as to whether these policies have a place in a city where growth is not occurring. Shrinking cities like Altoona are burdened with considerable aging infrastructures, i.e. a disproportionately old housing stock, so, even if the city where to capture growth from the surrounding county, this development is faced with considerable risk in the neighborhoods which they develop and with the types of buildings where they locate. At least development in the suburbs contains the assurance of limited neighbors and newer building types. Planning in Altoona is attempting to address this problem, by offering loans to those who choose to locate in the city; however this cost may be more than the city realizes.

**Conclusion**

This thesis has uncovered information revealing that: 1) Smart Growth is a well established planning method addressing the physical architecture of a city but not the demographics that defines these places, 2) shrinking cities like Altoona help provide insight to historical city design before the advent of the automobile, and 3) the solutions for the mitigation of restructuring in a shrinking city might is a multistep approach combining the best aspects of Smart Growth design, demographic research, and creative thinking. Altoona is also a shrinking city facing many of the challenges of other shrinking cities in the Unites States. The city experiences depopulation at the urban core and is challenged with the difficulties of an aging infrastructure. Suburbanization of Altoona is still occurring today; however also retains a good population density. Globalization in Altoona is difficult to determine. Job losses in the city are not a direct result of factors of the global market but more a result of modernization of the rail industry. A diversity of job offerings does exist in Altoona, although these job offerings do not represent job sectors that compete on the global market. Coupled with globalization is the trend of deindustrialization, Altoona lost its primary core of manufacturing and there is strong indication that this industry will not return to its former strength. Altoona has managed however to diversify job offerings after losses in the manufacturing industry. These demographics describe Altoona as a shrinking city possessing many of the conditions outlined by this thesis.

The case of Altoona reveals that despite the best intentions of Smart Growth policy, the lack of consideration for the demographic conditions of the city results in the decreased effectiveness of this planning method. Despite the infrastructure of the city, Altoona continues to shrink, suburbanize, and lose college educated graduates. This indicates that architecture cannot solely spur growth nor can the physical structure of a neighborhood be the driving factor to attract residents back to the urban environment. Smart Growth can provide a basis for infrastructure; however this policy cannot be used as the only planning method. Planning in Altoona might want to take note of this condition and take a closer look into the underlying causes of shrinkage in their city. Do the demographics or code structures of shrinking cities act as deterrents to Smart Growth practices? Smart Growth advocates might want to take note themselves and begin to understand the underlying causes that facilitate depopulation.
Future Research
Analyzing Smart Growth planning in a shrinking city raises many questions, creates new paths of research, and leads to new observations of shrinking cities in the United States. This final section speculates how research from this thesis might develop in the future:

1. Based on the information gathered regarding the similarities between the architectural structure of Altoona and the suggestions offered in Smart Growth planning why then do cities like Altoona not resemble other Smart Growth cities?

2. What about the automobile? Smart Growth planning might be working too hard against the will of the populous and the automobile. If planning theorists really want to envision the future, then the landscape for the automobile must be addressed.

3. Perhaps the question is not whether Smart Growth policy is a viable option in a city like Altoona, but why rather is growth no longer occurring within the city limits?

4. Robert Fishman suggests that cities like Altoona might be aging in place. The next phase may lead to a condition where health care needs decline as the boomer generation is replaced by a smaller retirement population. At this point the city must either focus on attracting new elderly to their healthcare facilities or diversify their economy again.

5. Cities in the future might want to analyze their cost per population for city services. By establishing this number the city gains a clearer picture into the effects of density on the cost of city services. Such research might reveal that obtaining higher densities might not solve many problems facing the city and that historical city design might not always work.

6. Historical growth patterns in Altoona might better explain Smart Growth planning and how cities, given the right conditions grow into cities centered on public transport, mixed use, and efficient design.


Deelstra, Tjeerd and Herbert Girardet. “*Urban Agriculture and Sustainable Cities*”. Thematic Paper 2.


Hough, Michael. “City From and Natural Process”. London, UK: Croom Helm, 1984


NY Times, Archive. 1992. *Nearly Half the US is Living in the Suburbs*


